Network Video Recorders

User Manual

Manual Version: V1.02

Thank you for purchasing our product. If you have any questions or requests, please do not hesitate to contact your dealer. Please read this document carefully as it contains critical information regarding proper use of your device.

Notice

CAUTION!

The default password is intended for your first login. To ensure account security, please change the password immediately after your first login. A strong password (with no less than eight characters) is recommended.

- This document may be outdated. The contents of this document are subject to change without prior notice.
- No part of this document may be reproduced in any form by any means without prior written authorization of our company.
- Best effort has been made to verify the integrity and correctness of the contents in this document, but no statement, information, or recommendation in this manual shall constitute formal guarantee of any kind, expressed or implied. We shall not be held responsible for any technical or typographical errors that may exist in this manual.
- The product appearance shown in this manual is for reference only and may be different from the actual appearance of your device.
- The illustrations in this manual are for reference only and may vary depending on the version or model.
- This manual is a guide for multiple product models and is not intended exclusively for any specific product model.
- Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual. The ultimate right to interpretation resides in our company.
- Take necessary measures to ensure data security and protect the device from network attack and hacking (when connected to Internet). Possible risks and consequences are at user's sole discretion.
- In no event shall our company, employees, manufacturers, suppliers, dealers or resellers, be held responsible for any consequential, incidental, direct or indirect losses or damages (including but not limited to losses of business profits, business interruption, loss of commercial information, business data and the like) arising out of the use or inability to use the product, software, and documentation, even if our company has been advised of the possibility of such damages or losses.

Conventions

Document Conventions

Convention	Description
Boldface font	Commands, keywords, parameters and GUI elements such as window, tab, dialog box, menu, button, etc.
Italic font	Variables for which you supply values.
>	Separate a series of menu items, for example, **Device Management** > **Add Device**.

Symbols

Symbol	Description
 **WARNING!**	Contains important safety instructions and indicates situations that could cause bodily injury.
 **CAUTION!**	Means reader be careful and improper operations may cause damage or malfunction to product.
 **NOTE!**	Means useful or supplemental information about the use of product.

Contents

Preface

This manual is a guide to operating an NVR device (referred to as device in this manual) locally or through the Web interface. The figures in this manual are only for illustration purpose. The display may vary with device model. Please see your device for the actual display. In this manual, the terms IP camera and IPC refer to the same thing – network camera, which requires a connection to the network.

This manual applies to the following models.

Name	Series	Model
NVR	NVR101 series	NVR101-04/08/16, NVR101-04E/08E/16E
	NVR102 series	NVR102-04/08/16, NVR102-04E/08E/16E
	NVR201 series	NVR201-04EP
	NVR202 series	NVR202-08EP/16EP, NVR202-08EN/16EN, NVR202-08E/16E/32E
	NVR208 series	NVR208-16/32

Part I Local Operations

1 Before You Begin

- The figures in this manual are only for illustration purpose because difference exists between different models.
- The parameters that are grayed out cannot be modified. See your device for the actual parameters and parameter values.

Login

CAUTION!

- Use the default username **admin** and password **123456** when you log in to the device for the first time.
- The default password is intended only for your first login. To ensure account security, please change the password after your first login.

1. Right-click anywhere in the preview window and then choose **Menu**. The login dialog box is displayed.

2. Select the user from the drop-down list, enter the correct password, and then click **Login**.

Local Operations

You can refer to Initial Configuration and complete a quick configuration in the local GUI.

NOTE!

Unless otherwise specified, all operations described in this manual are performed by a right-handed user. For descriptions about how to operate the device using a mouse, see Mouse Operations.

Mouse Operations

This manual describes mouse operations for a right-handed user.

Table 1-1 Mouse Operations

Name	Action	Description
Left button	Click	Select or confirm an item. Select to edit digits, symbols, upper-case or lower-case letters in a field.
	Double-click	Enter or exit full screen mode in preview state.
	Drag	Draw or move a rectangle on the screen, for example, when setting a privacy mask area.
Right button	Click	Show the shortcut menu. Exit zoom. Exit the current window when **Cancel** or **Exit** is displayed.
Wheel	Rotate forward/backward	Scroll up/down in a drop-down list, on a tab, or in a window.

Front Panel Buttons

The front panel buttons may vary with device model. Please see the buttons on your device.

Table 1-2 Front Panel Buttons 1

Button	Description
	Display the main menu.
	Switch to the next tab on the screen or switch the input method.

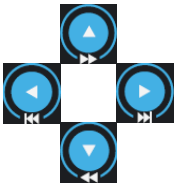
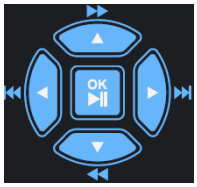
Button	Description
	Auxiliary function button.
	Exit the current window.
	• ▲/▼/◀/▶: Select a pane or a menu item. In PTZ (short for pan, tilt, and zoom) control mode, these buttons are used to control the rotation direction of the PTZ camera when the PTZ toolbar is hidden. • ⏮/⏭: Rewind/Forward 30 seconds in playback mode when the playback toolbar is hidden. • ⏩/⏪: Forward/Rewind at multiple speeds in playback mode when the playback toolbar is hidden.
	Confirm an operation, or start/pause the playback.
	Start or shut down the device.

Table 1-3 Front Panel Buttons 2

Button	Description
	Start or shut down the device.
	Enter 1, or display the main menu.
	Enter 2, A, B, or C; or start instant playback.
	Enter 3, D, E, or F; or start manual recording.
	Enter 4, G, H, or I; or enter the PTZ control interface.
	Enter 5, J, K, or L; or switch the screen layout in preview or playback mode.
	Enter 6, M, N, or O; or enable or disable arming.
	Enter 7, P, Q, R, or S; or take a snapshot.

Button	Description
	Enter 8, T, U, or V.
	Enter 9, W, X, Y, or Z.
	Enter 0 or a space.
	Delete
	Switch the input method.
	Auxiliary function button.
	Exit the current window.
	Switch to the next tab.
	• ▲/▼/◀/▶: Select a pane or a menu item. In PTZ control mode, these buttons are used to control the rotation direction of the PTZ camera when the PTZ toolbar is hidden. • ⏮/⏭: Rewind/Forward 30 seconds in playback mode when the playback toolbar is hidden. • ⏩/⏪: Forward/Rewind at multiple speeds in playback mode when the playback toolbar is hidden. •  : Confirm an operation, or start/pause the playback.

Remote Control

Table 1-4 Functions of the Buttons on the Remote Control

Button	Function
POWER ON/OFF	Press this button for at least three seconds to start or stop the device.
Device	Reserved.
Alphanumeric Buttons	Input numbers and characters in edit mode.
DEL	Remove characters on the left of the cursor.
RIGHTCLICK	Access the right-click shortcut menu.

Button	Function
SWITCH	Start/stop auto-switch in preview mode.
PLAYBACK	Enter the playback interface and display the playback toolbar in preview mode.
MENU	Press this button to display the main menu.
TOOLBAR	Show or hide the toolbar.
DIRECTION	• /// : Move between different menu items; shift the focus; in PTZ mode, move the PTZ; up, down, left, or right after the PTZ toolbar is hidden. • / : In playback mode, rewind or forward 30 seconds when the playback toolbar is hidden. • / : In playback mode, rewind or forward at multiple speeds when the playback toolbar is hidden.
OK	• Confirm the operation. • In playback mode, play or pause when the playback toolbar is hidden.
PTZ	Enter the PTZ control interface and display the PTZ toolbar in preview mode.
ESC	Exit the current interface.
IRIS+/IRIS-	In PTZ control state, you can adjust the aperture, focus, and zoom of the PTZ camera lens after hiding the PTZ toolbar.
FOCUS+/FOCUS-	
ZOOM+/ZOOM-	
F1	Used to switch between focus areas on an interface.
F2	Used to switch between menu sub-tabs.
Full Screen	In preview state, press this button to display the selected image on a full screen, or press it again to restore the image display.
SCREENS	In preview and playback mode, used to switch between different screen layouts. The 3, 5 and 7 screen layout show video in corridor mode.
MAIN/AUX.	Reserved.
MUTE	Reserved.

2 Initial Configuration

Preparation

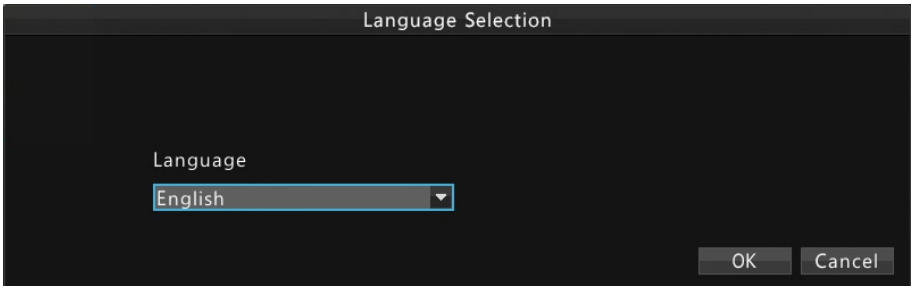
- Make sure that at least one monitor is correctly connected to the VGA/HDMI interface on the rear panel of the device.

- Make sure that the hard disk(s) are correctly installed. For the steps to install a hard disk, refer to the quick guide.

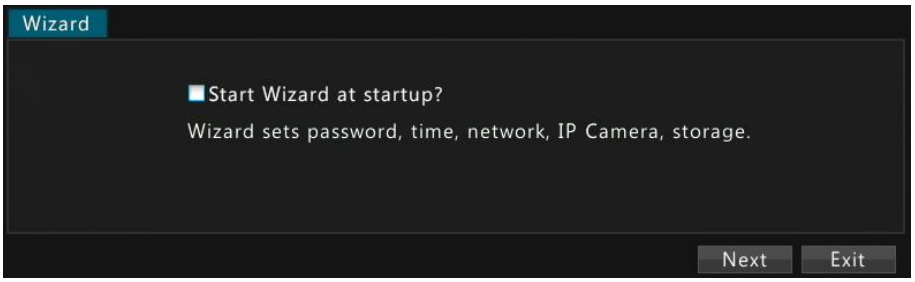
Startup Wizard

The startup wizard can guide you to complete the most basic configuration for the device to operate correctly.

1. Choose the desired system language and then click **OK**. The **Wizard** window is displayed.



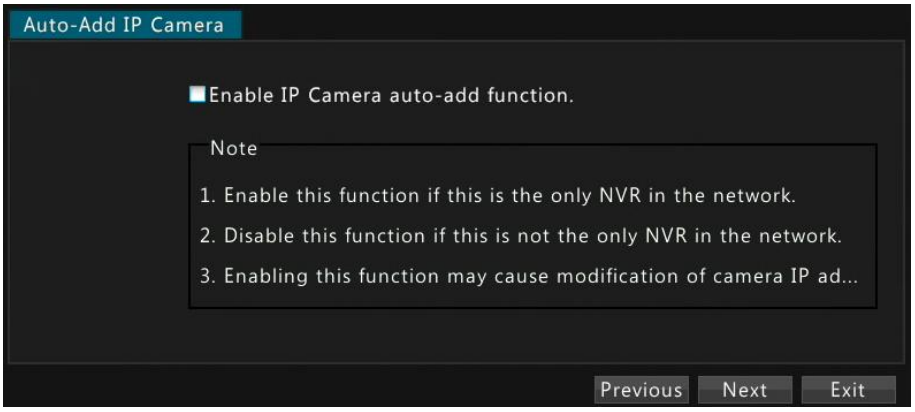
2. Choose whether to show startup wizard at the next startup, and then click **Next**.



NOTE!

You may also enable Startup Wizard under **Menu** > **System** > **Basic**.

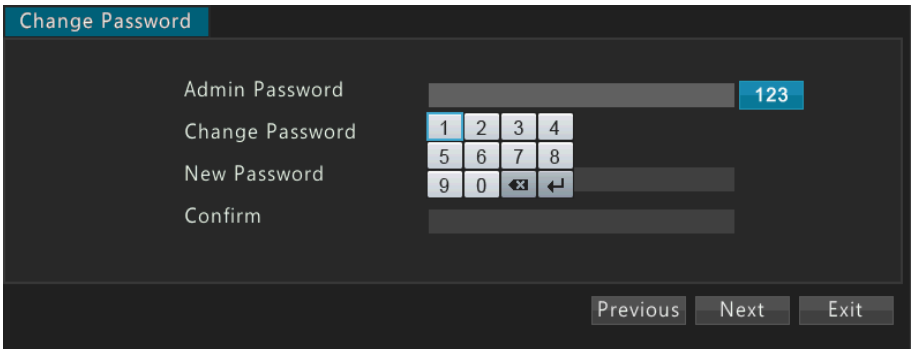
3. Choose whether to enable the auto-add function, and then click **Next**.



NOTE!

- The device with PoE ports or switching ports does not support the auto-add function.
- You may also enable the auto-add function under **Menu** > **Camera > Camera**.

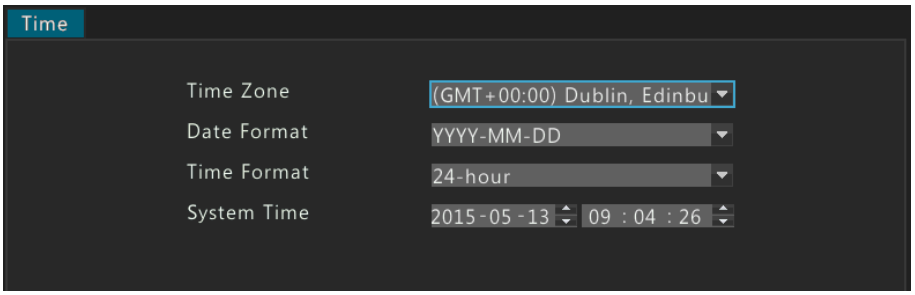
4. Enter the admin password **123456** and then click **Next**.



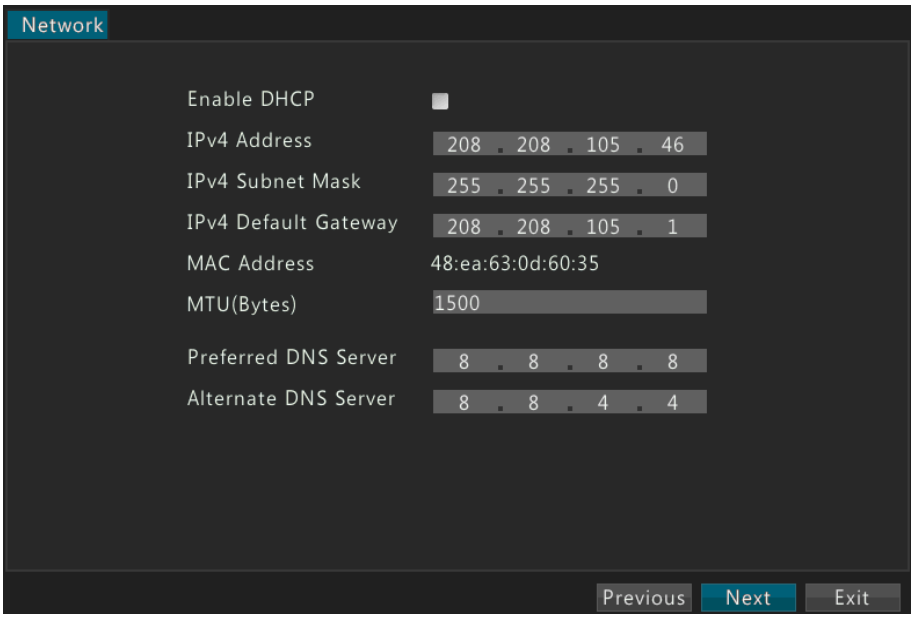
CAUTION!

The default password is intended only for your first login. To ensure account security, please change the password after your first login.

5. Complete the settings correctly, including time zone, date and time formats, and system time. Click **Next** after you complete the settings.



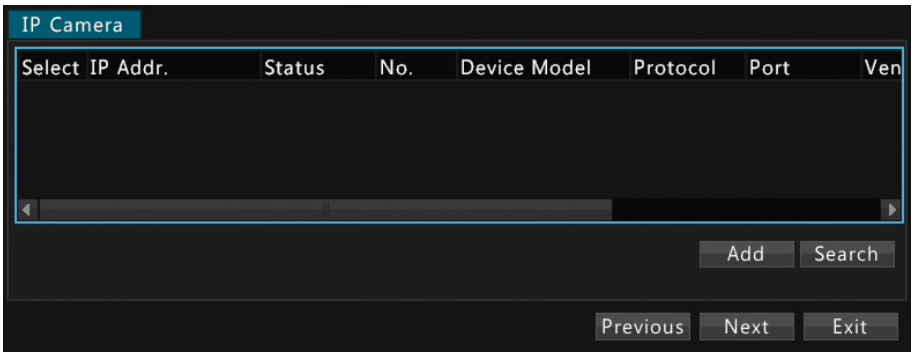
6. Set the correct IP address, subnet mask and gateway. Keep the default settings for other network parameters unless modification is necessary. And then click **Next**.



NOTE!

- For a device with more than one Network Interface Card (NIC), you can select the desired NIC and a default route.
- You can configure an internal IPv4 address for a device with PoE ports or switching ports.
- The **IP Camera** window is not displayed if you have enabled the auto-add function in step 2.

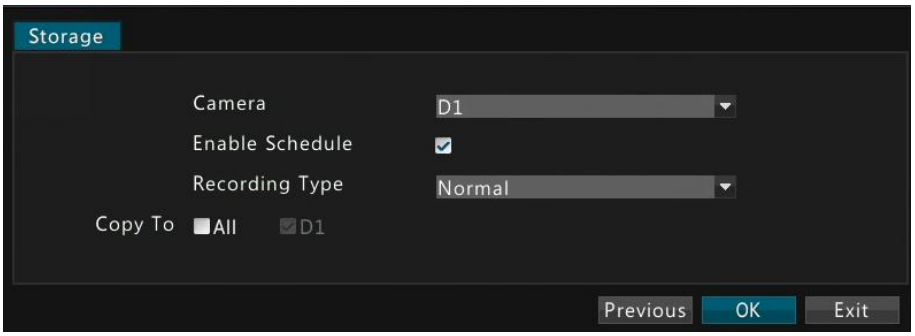
7. Click **Search**, select the camera you want to add, and then click **Add**. After the camera is added successfully, click **Next**.



NOTE!

Normally, all the discovered cameras (including those connected via ONVIF) can be added to the device, and the status is displayed as . If the device fails to add a camera, please check the network connection and verify that the username and password for the camera are correct.

8. By default, a 7×24 recording schedule is enabled for all the connected cameras, but you can select a camera and then change the recording type as required. After you have completed the configuration, click **OK**.



3 Preview

Status Icons in the Preview Window

The following icons indicate alarm status and recording status for cameras in the preview window.

Table 3-1 Preview Icons

Icon	Name
	Tampering alarm, alarm input
	Motion detection alarm
	Recording

The following pane states are possible.

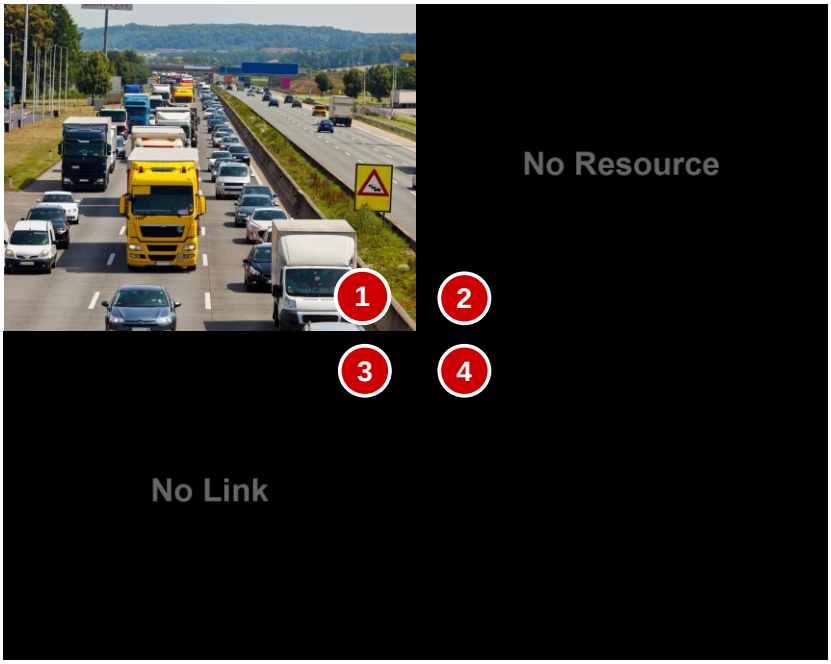


Table 3-2 Pane Status Description

No.	Description
1	The camera is online, and live video from the camera is displayed.
2	The camera is online, but the NVR device has insufficient capacity to decode streams from the camera.
3	The camera is offline, or the camera is online but it has no extra streams.
4	No camera is added for the channel.

Preview Pane Toolbar

A preview pane toolbar appears when you click a pane in preview status. You can use a preview pane toolbar to operate the corresponding pane.

Figure 3-1 Preview Pane Toolbar

Table 3-3 Pane Toolbar Buttons

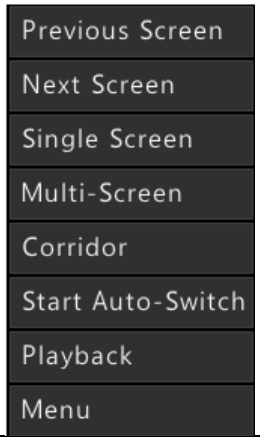
Button	Button Name	Description
	PTZ Control	Click this button to display the PTZ control panel for a PTZ camera in preview status.

Button	Button Name	Description
	Manual Recording	Click this button to start recording live video in the current pane to the device. A red cross mark appears in the lower right corner of the button when recording is started. To stop manual recording, click the button again.
	Instant Playback	Click this button to play the video recorded within five minutes.
	Zoom	Click this button to increase the size of a certain part of an image in the current pane.
	Image Config	Click this button to configure image parameters for video displayed in the current pane.
	Preview Snapshot	Click this button to take a snapshot in live view. After a snapshot is taken, you can view the snapshot and back it up under **Menu** > **Backup** > **Image Backup**.
	Switch Camera	Click this button to change the camera in the current live view. ***Note***: *Devices with PoE ports or switching ports do not offer this function.*
	Camera Info	Place the mouse cursor on the icon to view real-time camera information.
	Exit	Click this button to exit the toolbar in the current pane.

Shortcut Menu in Preview Window

The following menu appears when you right-click anywhere in the preview window. The table below describes the menu functions.

Table 3-4 Preview Operations

Menu Name	Description	Screenshot
Previous Screen Next Screen	Switch to the previous or next screen.	
Single Screen	Switch the display by selecting the desired camera from the menu.	
Multi-Screen	Change to the desired screen layout by selecting from the menu.	
Corridor	Used to view videos in different screen layouts: 3, 5 and 7 screens. ***Note***: *You can also click* ***Menu*** > ***System*** > ***Preview*** *and select the desired corridor layout from the*	

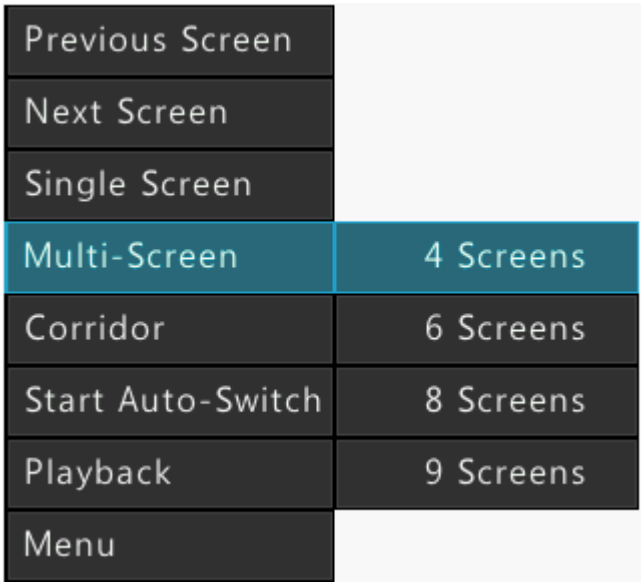
Menu Name	Description	Screenshot
	Default Layout *drop-down list.*	
Start Auto-Switch Stop Auto-Switch	Start/stop auto-switching one or multiple panes in preview status.	
Playback	Display the playback window.	
Menu	Display the main menu.	

Example of Auto-Switch Operation

Auto-switch requires you to configure the screen layout, panes, the corresponding cameras, and the auto-switch interval.

This example describes how to configure auto-switch for five cameras based on a 4-pane screen layout.

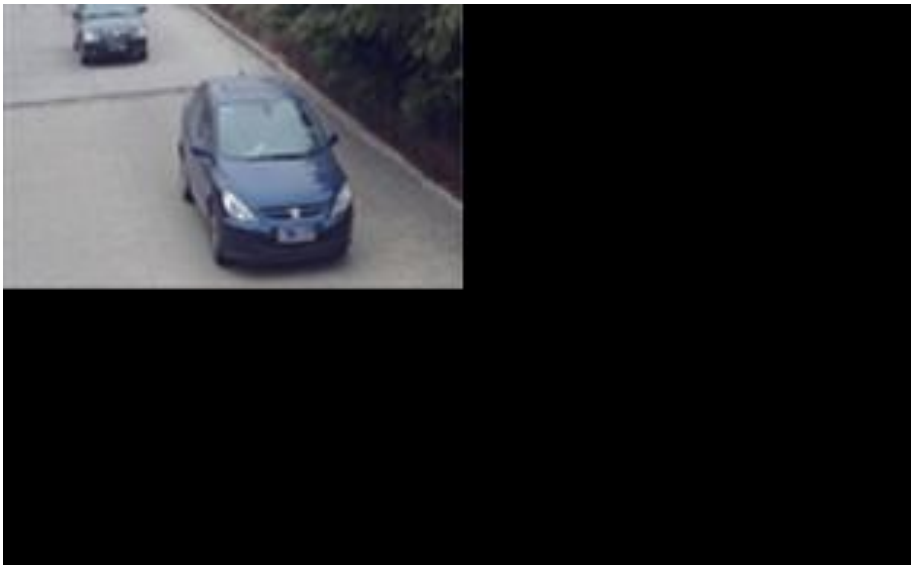
1. Right-click anywhere in the preview window, and then click **Multi-Screen** > **4 Screens**. Four screens are displayed.



NOTE!

Depending on the model of your device, the number of screens that can be displayed may vary.

2. Right-click anywhere in the preview window and then click **Start Auto-Switch**. Auto-switch starts to display four panes on the first screen and then the fifth pane on the second screen at the set interval.



NOTE!

The default auto-switch interval is eight seconds and can be modified under **Menu** > **System** > **Preview**.

Zoom

This function is used to increase the size of a certain part of an image in a pane of the preview window to get more details of the selected part.

1. In the preview window, click the pane on which live video is playing, and then click on the toolbar.

2. In the small screen in the lower right corner, click and drag your mouse to specify an area (in the red box) that you want to zoom in.

Preview Image Configuration

This function allows you to configure image settings to achieve optimal visual effects for a specified camera.

1. In the preview window, click the pane on which live video is playing, and then click  on the toolbar.

2. Select the desired mode and then adjust the settings for desired visual effects.

Table 3-5 Image Parameter Description

Icon	Indication	Description
	Brightness	Adjust the brightness of images. The greater value you set, the brighter the images appear.
	Hue	Purity of colors in an image.
	Contrast	Specifies the degree of difference between the brightest part (white) and darkest part (black) of an image. To increase contrast, set a greater value.
	Saturation	The amount of color in a specified hue. To increase saturation, set a greater value.

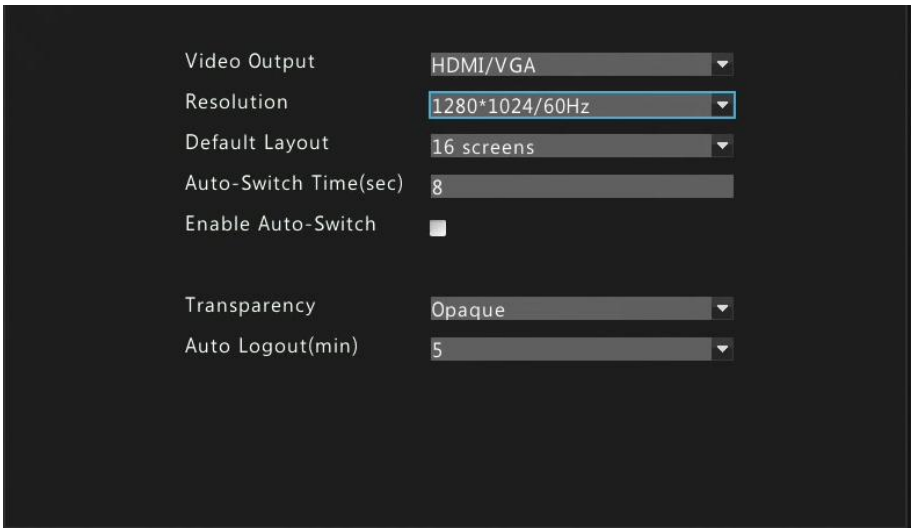
3. After you have completed the configuration, click **OK**.

Preview Configuration

Normally live video is displayed after you have completed configuration by following the startup wizard. You can modify preview parameters by performing the following steps.

1. Click **Menu** > **System** > **Preview**.

2. Configure the preview parameters as required.



NOTE!

Depending on the model of your device, the supported output interfaces and number of screens that can be displayed may vary. Please see your device for the actual display.

3. After you have completed the configuration, click **OK**.

4 Camera Configuration

Camera Management

Before you start, make sure the cameras are connected to the device through network.

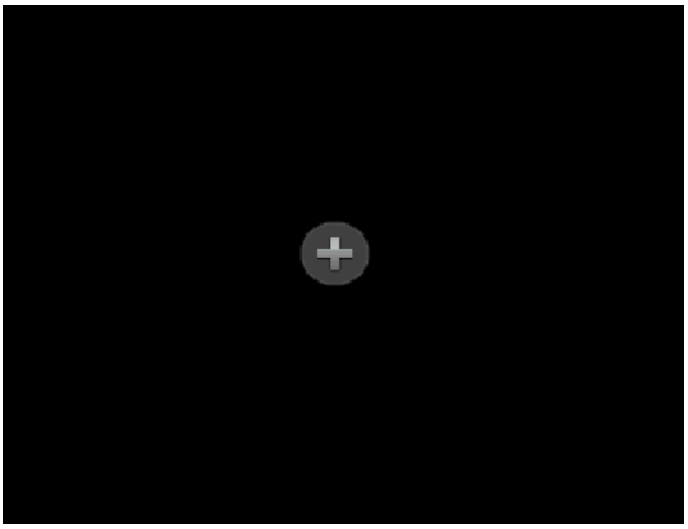
Adding Cameras

Quick Adding Cameras

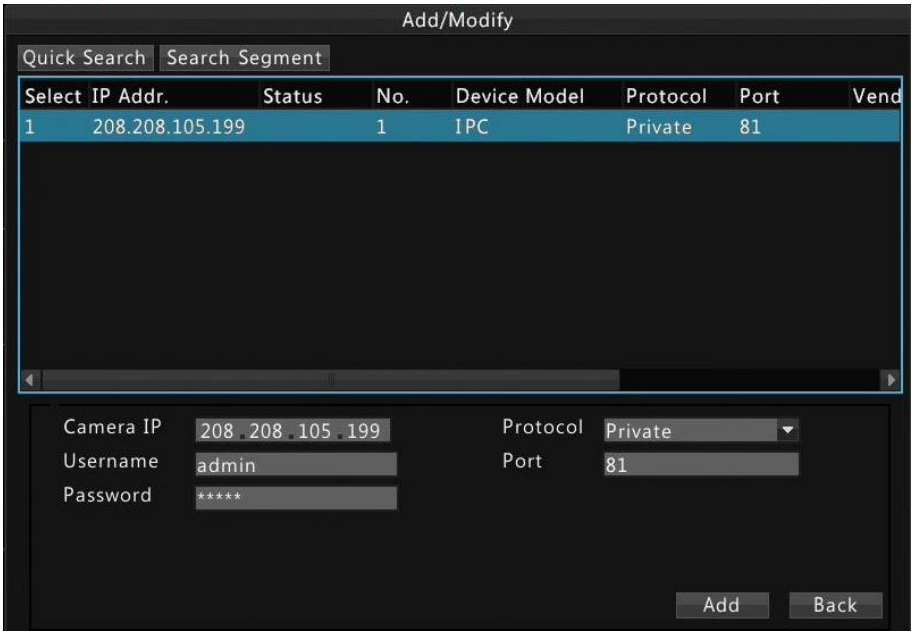
NOTE!

The device with PoE ports or switching ports does not support this function.

1. In the preview window, click displayed on the pane.



2. Select the desired camera and then click **Add**.

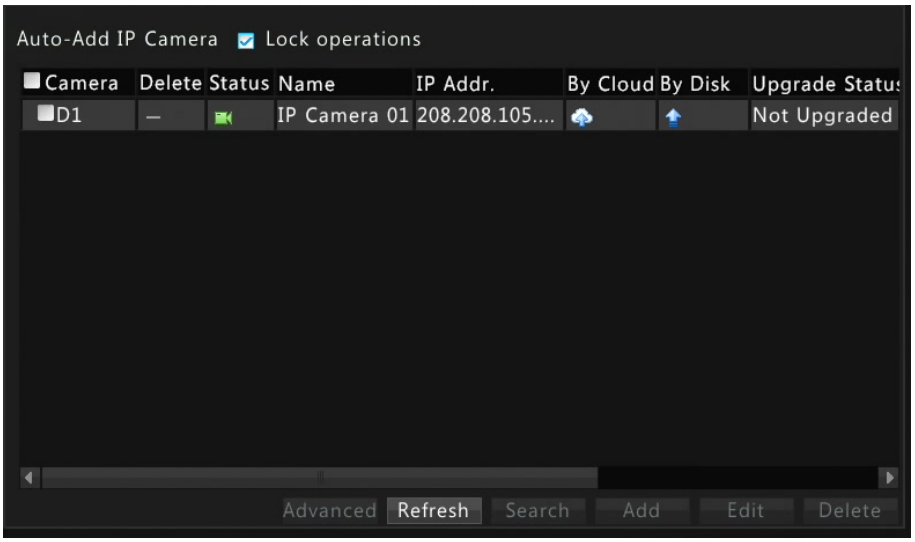


Adding Cameras Automatically

NOTE!

The device with PoE ports or switching ports does not support this function.

1. Click **Menu** > **Camera** > **Camera**.
2. Select **Auto-Add IP Camera**. A message is displayed, indicating that this function may change IP addresses when adding cameras. Click **OK**. Cameras produced by our company will be added automatically if they are connected to the device.

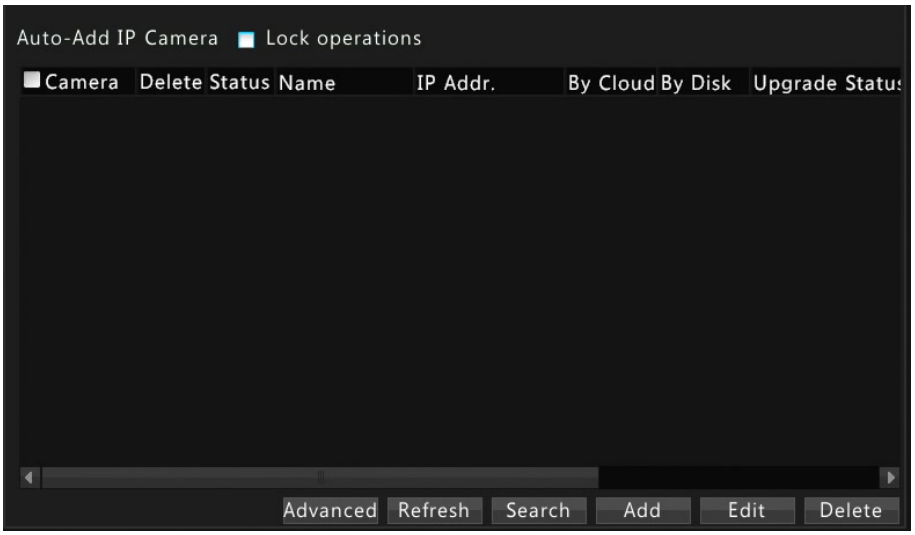


NOTE!

- The auto-add function is enabled by default for devices with one hard disk slot. For devices with more than one disk slot, this function is disabled by default.
- When you use this method to add a camera produced by our company, the IP address of this camera will be changed by the device automatically if the camera is in a different network segment as the device.

Searching and Adding Cameras

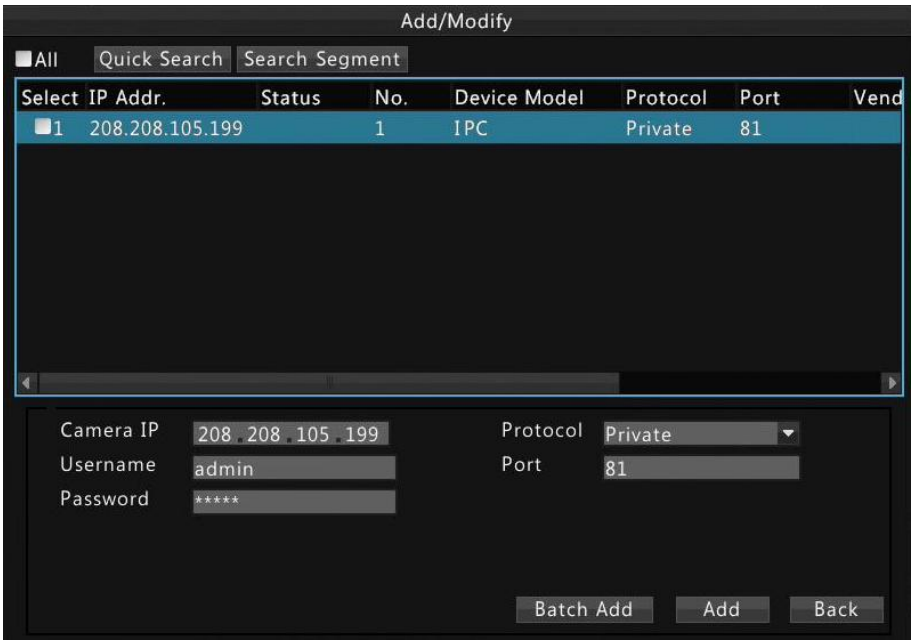
1. Click **Menu** > **Camera > Camera**.



2. Click **Search** to perform a quick search.

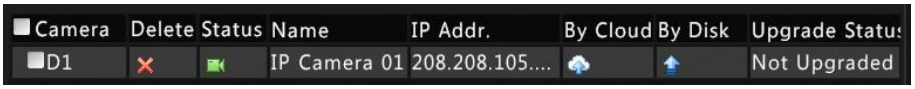
- To perform a quick search again, click **Quick Search**. The device searches for cameras on the network automatically.
- To search a specified network segment, click **Search Segment**.

3. Choose one of the following methods to add your camera(s).



- To add one camera, select it and then click **Add**.
- To add multiple cameras at a time, select the cameras and then click **Batch Add**. You may select **All** to add all the listed cameras if the total number does not exceed the maximum number allowed.

4. Check the connection status on the **Camera** tab.

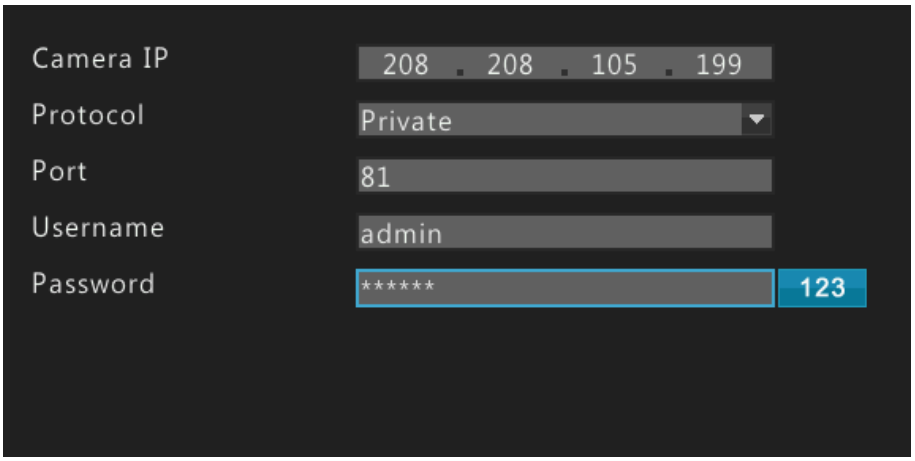


NOTE!

- Normally, all the cameras discovered can be added to the device, and the camera status is displayed as . If the device fails to add a camera, please check the network connection and verify that the username and password for the camera are correct.
- If a camera is still offline after you have verified the normal network connection, click **Edit** and change the username and password of the camera to the actual username and password.

Adding Cameras Manually

1. Click **Menu** > **Camera > Camera**.
2. Click **Add**. The **Add/Modify** window is displayed.
3. Configure the parameters for the camera and then click **OK**.



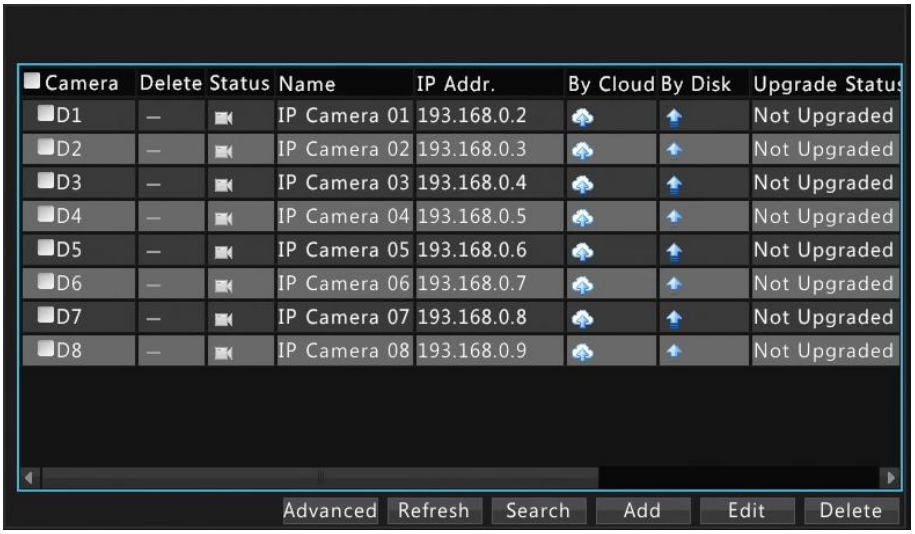
4. Check connection status on the **Camera** tab to verify that the camera is added successfully.

Adding Cameras by Plug-and-Play

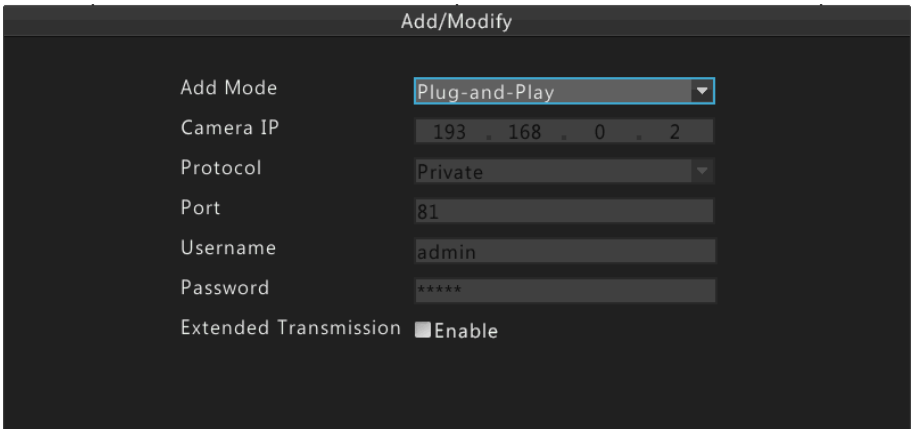
NOTE!

- This function is available only for the device with PoE ports or switching ports.
- The channel corresponding to a PoE port or a switching port cannot be deleted.

1. Use a network cable to connect the camera to the PoE port or switching port on the back panel of the device.
2. Click **Menu** > **Camera > Camera**.



3. Select the desired camera and then click **Edit**. The **Add/Modify** window is displayed. Plug-and Play is the default way to add cameras. If you choose **Manual**, you need to modify the settings.



4. Check connection status on the **Camera** tab to verify that the camera is added successfully.

NOTE!

- If a camera added via ONVIF is still offline after you have verified the normal network connection, click **Edit** and change the username and password of the camera to the actual username and password.
- For a **devi**ce with a PoE port, will be displayed in the **Status** column if the power of an online camera is lower or higher than the rated power.

IP Camera Management

1. Click **Menu** > **Camera** > **Camera**.
2. Edit a camera: select the camera and then click **Edit**. The **Add/Modify** window is displayed. Edit the settings as required and then click **OK**.

   For example, you modify **Camera IP** to change the camera to another one.

3. Delete cameras.

To delete a camera, select the camera, click , and then click **OK** in the dialog box.

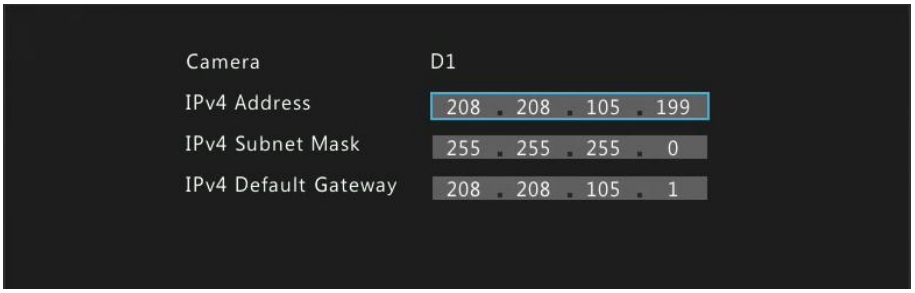
To delete several cameras at a time, select the cameras, click **Delete**, and then click **OK** in the dialog box.

NOTE!

Channels corresponding to PoE ports or switching ports cannot be deleted.

4. Advanced settings

   Select the camera that is connected via the Uniview protocol and whose status is displayed as , and then click **Advanced**. Modify the IP address, subnet mask, and gateway for the camera as needed.



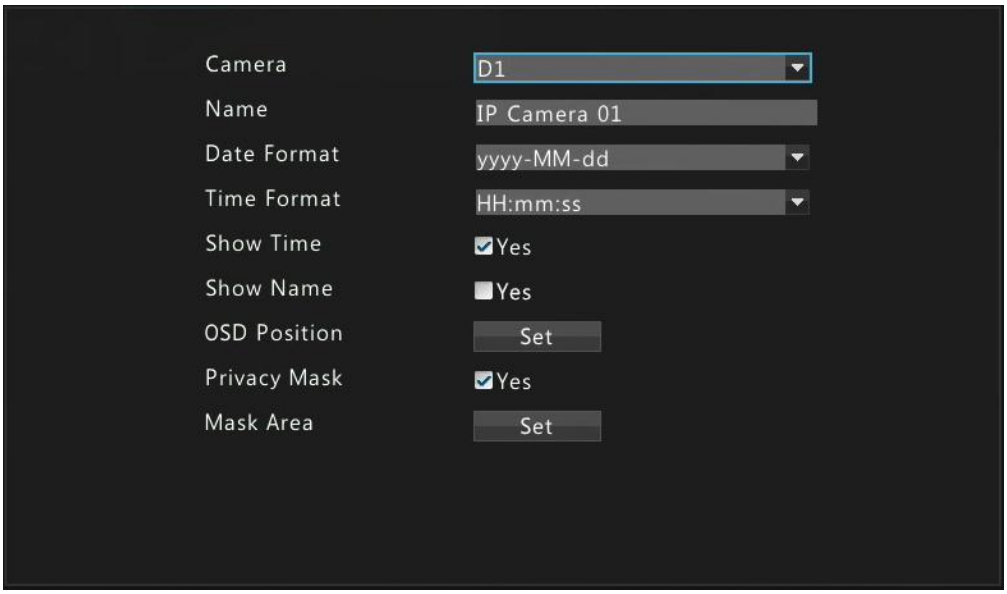
5. Upgrade a camera

   Select the camera that is connected via the Uniview protocol and whose status is displayed as , and then click . A message appears, asking for your confirmation. Click **OK** to start cloud upgrade.

   Select the camera that is connected via the Uniview protocol and whose status is displayed as , and then click . In the upgrade window, locate the upgrade file in the USB storage device and then click **OK** to start upgrade.

Basic Settings

1. Click **Menu** > **Camera** > **Basic**.
2. Select the camera and set the camera name.

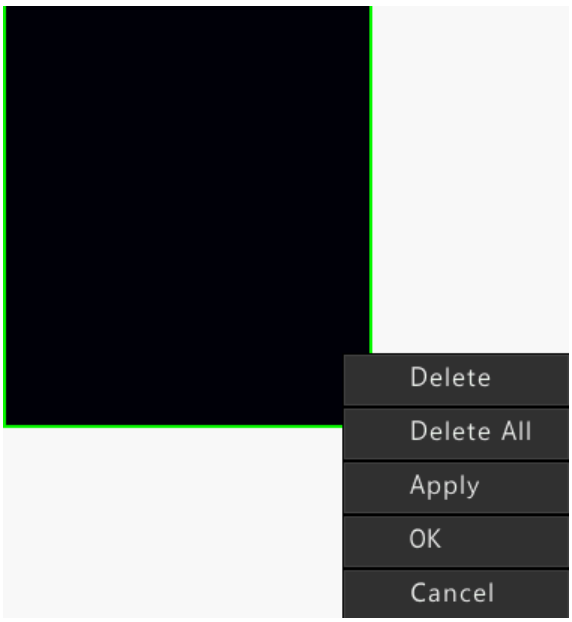


3. Set the OSD.

You may set the date and time formats, display time and name on the screen. You may also click **Set** next to **OSD Position** to set the position precisely.

4. Set privacy mask.

- **a.** Select the **Yes** check box for **Privacy Mask**.
- **b.** Click **Set** next to **Mask Area**.
- **c.** Click and drag the mouse to specify the area you want to mask. Multiple mask areas are allowed.
- **d.** Right-click on the screen and then click **OK**.



5. After you have completed the configuration, click **OK**.

Image Settings

1. Click **Menu** > **Camera** > **Image**.

2. Select the camera and then set the basic image parameters. You may also click **Set** and adjust the settings while viewing images in the preview window.

NOTE!

- **Image Rotation** is used to change image orientation and sometimes to achieve corridor mode. For example, select **90° CW** to rotate images 90 degrees clockwise, and **90° CCW** to rotate images 90 degrees counterclockwise.
- In corridor mode, operations to areas of interest (such as zoom and motion detection) also work in corridor mode.
- The changed image settings are effective to both live and recorded videos.

3. After you have completed the configuration, click **OK**.

5 PTZ Control

PTZ (short for pan, tilt, and zoom) control allows you to control the rotation speed, viewing direction, iris, focus and turn on or off the wiper of a PTZ camera from a remote location. In addition, you can set preset positions (presets for short) for a PTZ camera.

NOTE!

PTZ control is applicable to the PTZ camera only and depends on the functions and protocols that the PTZ camera supports. For example, some manufacturers use presets for other purposes (such as wiper or menu). Refer to the specifications for details.

Controlling a PTZ Camera Using the PTZ Toolbar

1. Click the desired pane in the preview window and then click  on the toolbar.

2. Operate the PTZ camera using the PTZ toolbar. For details about how to use the PTZ toolbar, see PTZ Toolbar Buttons.

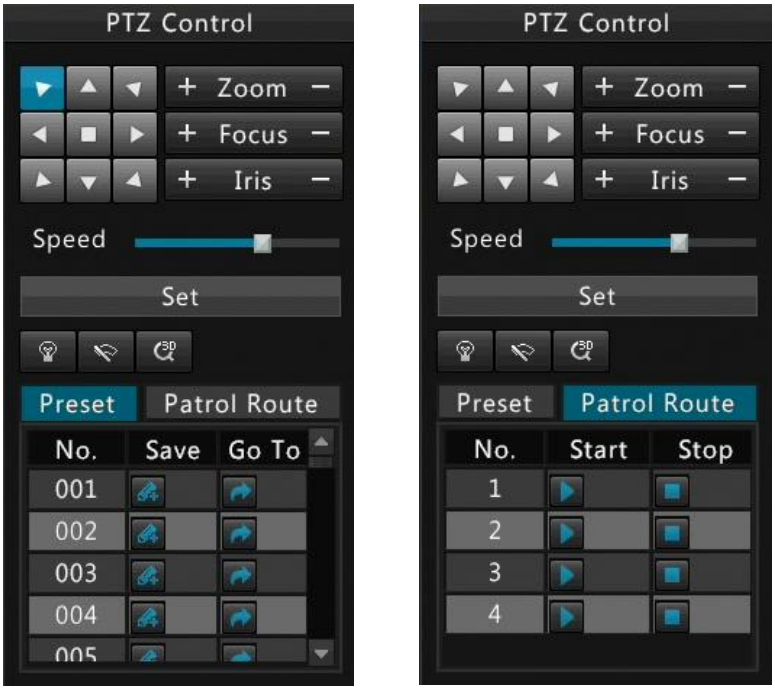


Table 5-1 PTZ Toolbar Buttons

Button	Description
	Control the rotation direction of the PTZ camera or stop rotation.
	Adjust the zoom, focus, and iris of the camera. ***Note**: You can also zoom in or out using the scroll wheel on your mouse.*
	Control the rotation speed of the camera. 1 means the slowest speed, and 9 means the fastest speed.
	Click to enter the PTZ management window.

Button	Description
	• Turn on/off the light. • Turn on/off the wiper. • Use 3D positioning. ***Note:*** • *Make sure the camera supports 3D positioning before you use this function.* • *Zoom in or out on the image by dragging your mouse in the 3D positioning window. Dragging from the top down will zoom in. Dragging from the down top will zoom out.*
	Preset button.
	• Save a preset, including the current position and status of the camera. • Call a preset so the PTZ camera goes to the preset position. ***Note:*** *Before you select a preset number, check whether a preset has been configured for this preset number. Otherwise, the new preset will replace the current one.*
	Patrol route button.
	• Start a patrol route. • Stop a patrol route.

Configuring and Calling a Preset

1. Click the desired pane in the preview window and then click  on the toolbar.
2. Click **Set**. The **PTZ Management** window is displayed.

3. Configure presets.
   a. Use the directional buttons to rotate the PTZ camera to the desired position, select a preset number that is not in use, and then click to save the preset.
   b. To add more presets, repeat the above operations.
4. To call a preset, select the preset number from the drop-down list and then click . The camera goes to the preset position.

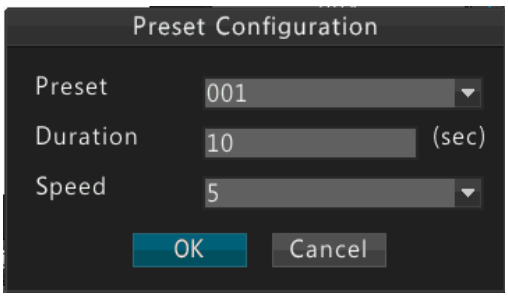
Configuring and Calling a Patrol Route

NOTE!

Each PTZ camera allows up to four patrol routes, and each patrol route allows up to eight presets.

1. Click the desired pane in the preview window and then click on the toolbar.
2. Click **Set**. The **PTZ Management** window is displayed.

3. Click . In the **Preset Configuration** window, select the desired preset, set the duration and speed as required, and then click **OK**. Repeat this step to add all the key points for the patrol route.



4. Select the desired patrol route from the drop-down list and then click to start it. To stop patrol, click .

NOTE!

- The default duration is 10 seconds, and the default speed is 5.
- and are used to modify and delete a preset.
- and are used to adjust the sequence of key points.
- is used to delete all the key points.

6 Recording and Snapshot

You can record video and take snapshot after finishing the configuration as described in Initial Configuration.

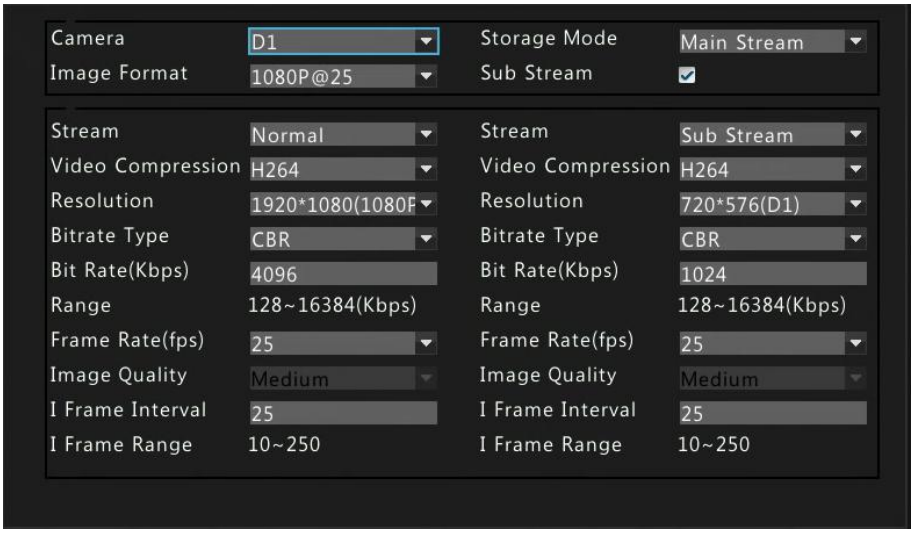
NOTE!

Snapshot related configuration mentioned in this chapter is available for some device models only.

Encoding Settings

Encoding Settings for Recording

1. Click **Menu** > **Camera** > **Encoding**.



2. Select the desired camera from the drop-down list, select the desired stream types, and then set the encoding parameters. The device provides three stream types for you to choose:

- **Normal**: It is a main stream intended for scheduled recording.
- **Event**: It is a main stream intended for manual recording and recording triggered by events such as alarm inputs or motion detection alarms. Encoding settings for this stream type also apply to manual recording.
- **Sub Stream**: This stream type is intended for low resolution video in scenarios such as local monitoring or remote monitoring on a mobile device.

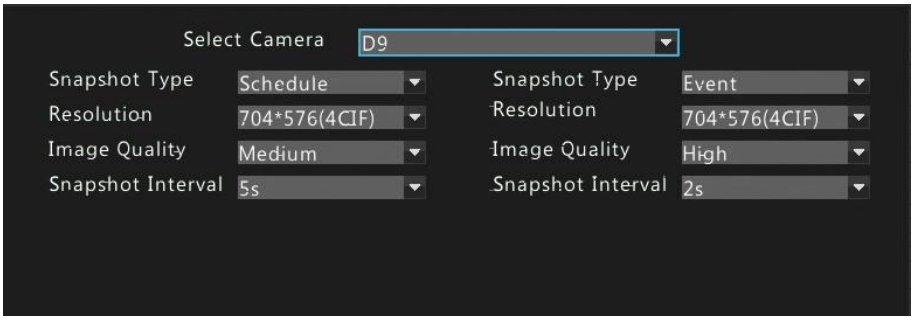
NOTE!

- By default the main stream is intended for storage. To choose the sub stream for storage, select **Sub Stream** from the **Storage Mode** drop-down list.
- Bitrate types include Constant Bit Rate (CBR) and Variable Bit Rate (VBR). Image quality is adjustable only when **Bitrate Type** is set to **VBR**.
- The parameters and options displayed in this window may vary with camera model.

3. After you have completed the configuration, click **OK**.

Encoding Settings for Snapshot

1. Click **Menu** > **Camera** > **Snapshot**.
2. Set the parameters.



NOTE!

- Two snapshot types are available. **Schedule** means snapshot taken according to the preset schedule. **Event** means snapshot triggered by events, for example, motion detection alarms or alarm inputs.
- **Snapshot Interval** means the length of time between two snapshots.

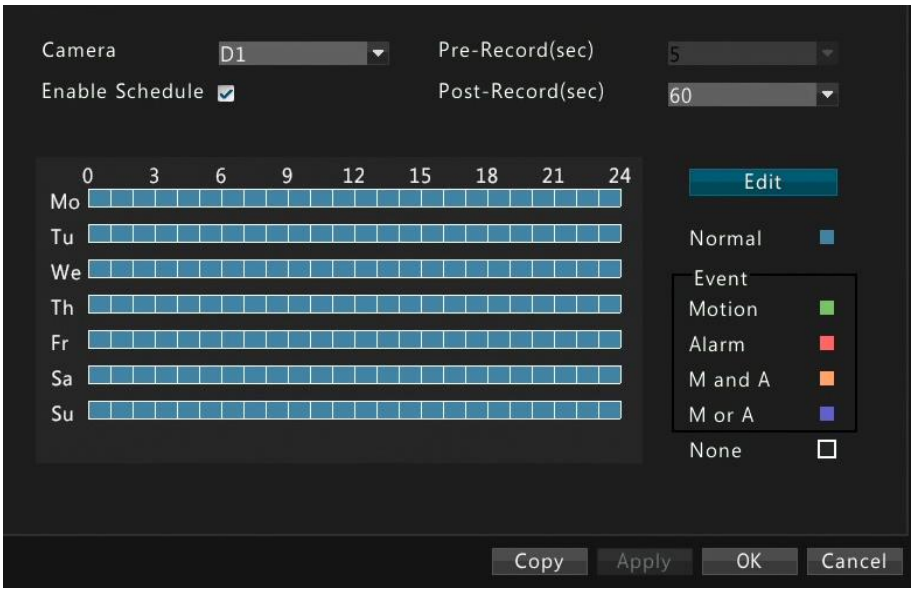
3. After you have completed the configuration, click **OK**.

Scheduled Recording and Snapshot

Scheduled Recording

Scheduled recording means video is recorded according to a schedule. It is different from manual recording and alarm-triggered recording. By default, a 7×24 recording schedule is enabled. But you may edit it as needed and have video recorded during specified periods only.

1. Click **Menu** > **Storage** > **Schedule**.

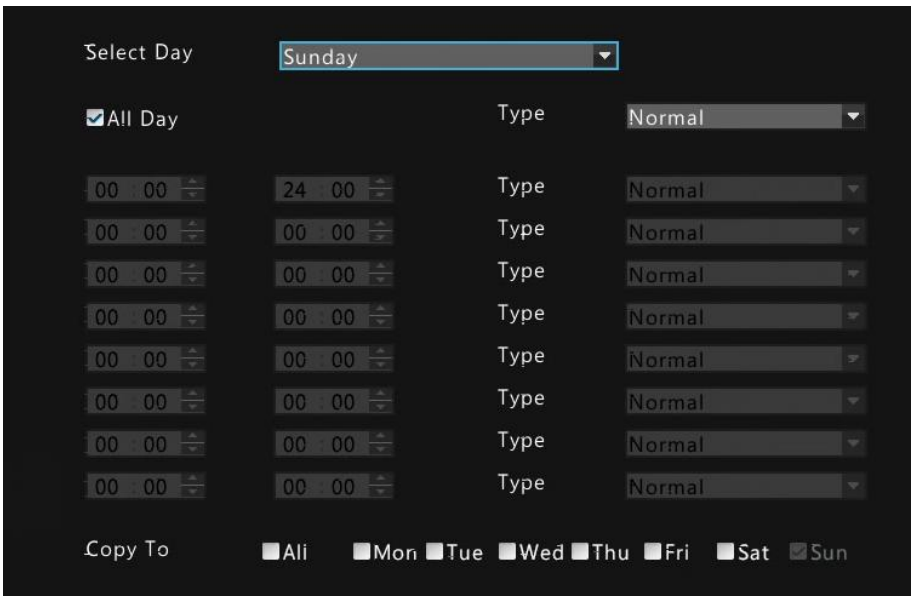


2. Set a recording schedule.

a. Select the desired camera from the drop-down list and then select **Enable Schedule** if it is not selected.

b. Click **Edit**.

3. Set recording period(s) as needed, and make sure you select **Normal** from the **Type** drop-down list(s).



NOTE!

- **All Day** is selected by default. You may clear the check box and set up to eight different periods for each day.
- Scheduled recording (**Normal**) is the default recording type. If you select any other recording type, make sure you have enabled the corresponding alarm function and have configured alarm-triggered recording.
- To apply the schedule to other day(s), select the day(s) right to **Copy To**.

4. After you have completed the configuration, click **OK**.

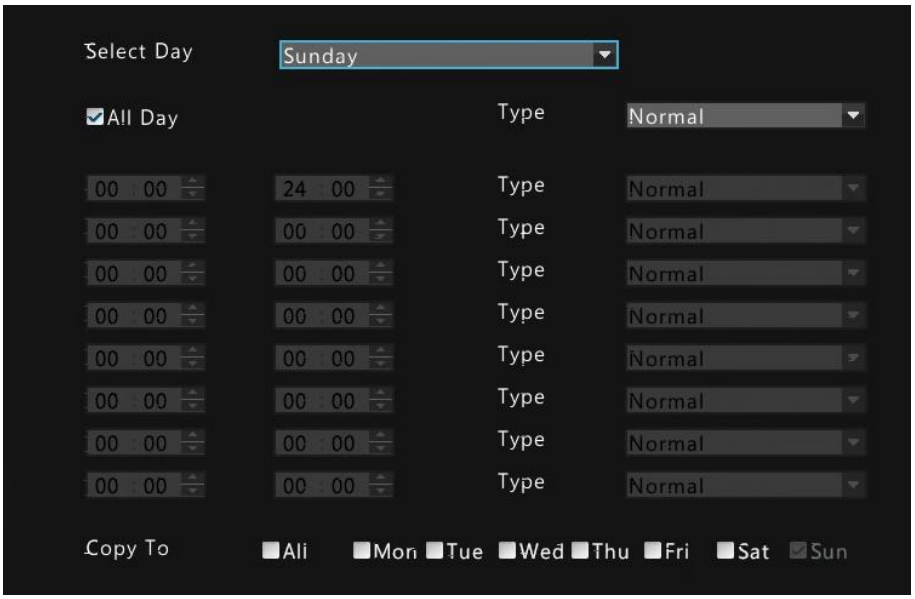
NOTE!

To apply the settings to other cameras, click **Copy** and then select the desired cameras.

Scheduled Snapshot

1. Click **Menu** > **Storage** > **Snapshot**.

2. Set a snapshot schedule.
   a. Select the desired camera from the drop-down list and then select **Enable Schedule**.
   b. Click **Edit**.
3. Set snapshot period(s) as needed and make sure you select **Normal** from the **Type** drop-down list(s).



NOTE!

- **All Day** is selected by default. But you can clear the check box and set up to eight different periods for each day.
- Scheduled snapshot (**Normal**) is the default snapshot type. If you select any other snapshot type, make sure you have enabled the corresponding alarm function and have configured alarm-triggered recording.
- To apply the schedule to other day(s), select the day(s) right to **Copy To**.

4. After you have completed the configuration, click **OK**.

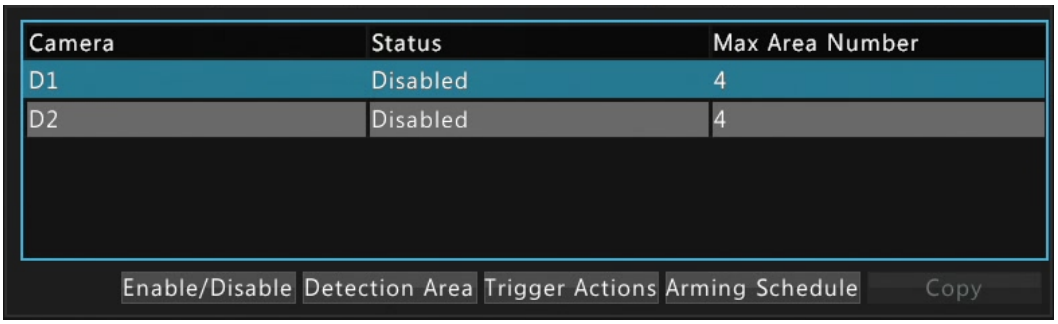
NOTE!

To apply the settings to other cameras, click **Copy** and then select the desired cameras.

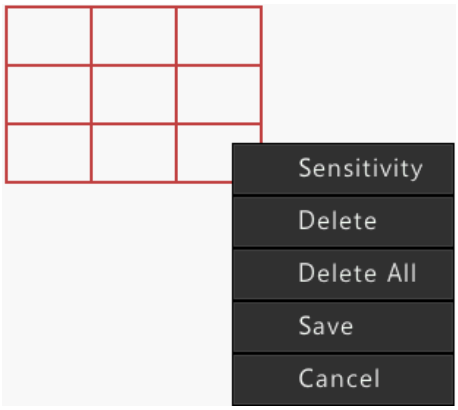
Motion Detection Triggered Recording and Snapshot

Motion Detection Triggered Recording

1. Click **Menu** > **Alarm** > **Motion Detection**.
2. Select the desired camera and then click **Enable/Disable** to enable motion detection.



3. Set detection area(s):
   a. Click **Detection Area**.
   b. Click and drag the mouse to specify a detection area.
   c. To set detection sensitivity, right-click the detection area, click **Sensitivity** on the shortcut menu, and then set as needed.
   d. (Optional)Specify more detection area(s) as needed in the same way.
   e. After you have completed the configuration, click **Save** to save the settings.



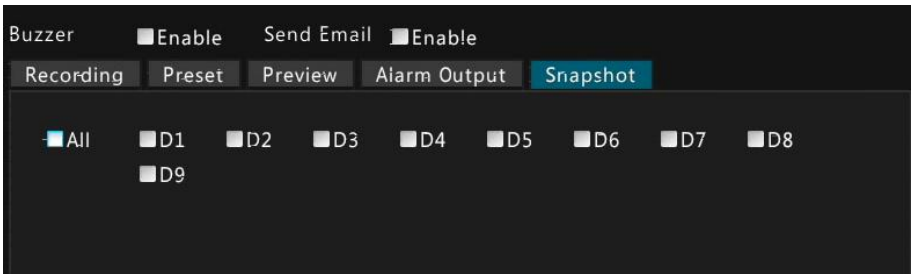
4. Click **Trigger Actions**. On the **Recording** tab, select the desired camera(s).

5. Set a recording schedule (see Scheduled Recording for detailed steps) as needed. Make sure you select **Motion** from the **Type** drop-down list. The following figure shows an example schedule for motion detection triggered recording.

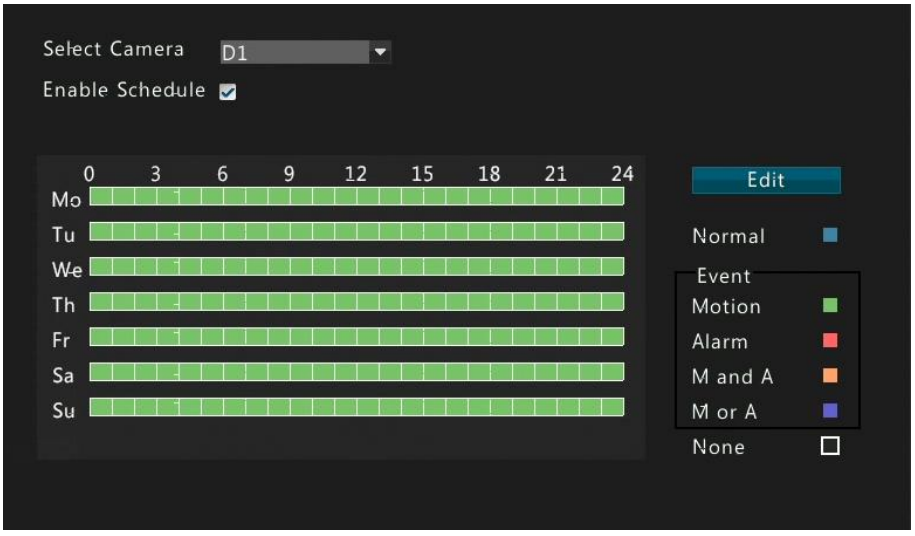
Motion Detection Triggered Snapshot

Enable motion detection for the desired camera(s) first. See steps 1 through 3 in Motion Detection Triggered Recording for details. And then perform the following steps:

1. Click **Trigger Actions**, click the **Snapshot** tab, and then select the desired camera(s).



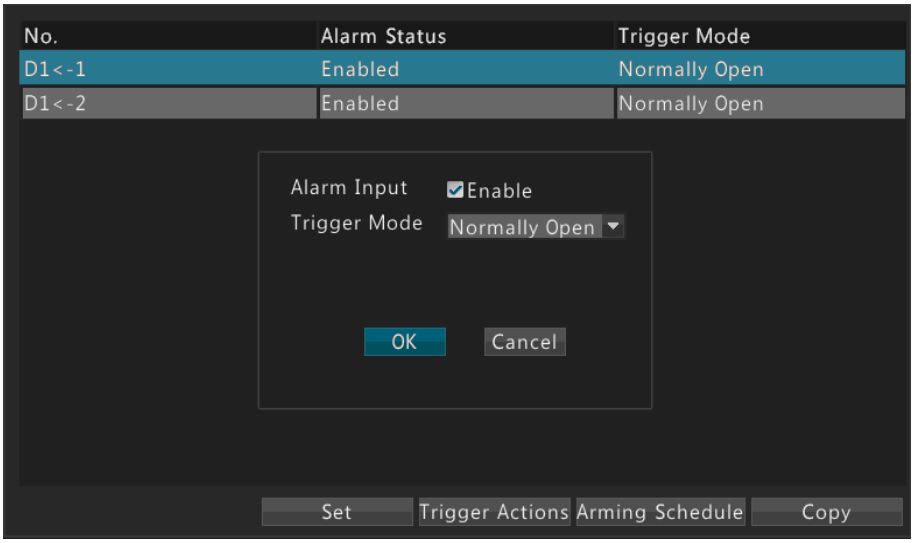
2. Set a snapshot schedule (see Scheduled Snapshot for detailed steps) as needed. Make sure you select **Motion** from the **Type** drop-down list. The following figure shows an example schedule for motion detection triggered snapshot.



Alarm Input Triggered Recording and Snapshot

Alarm Input Triggered Recording

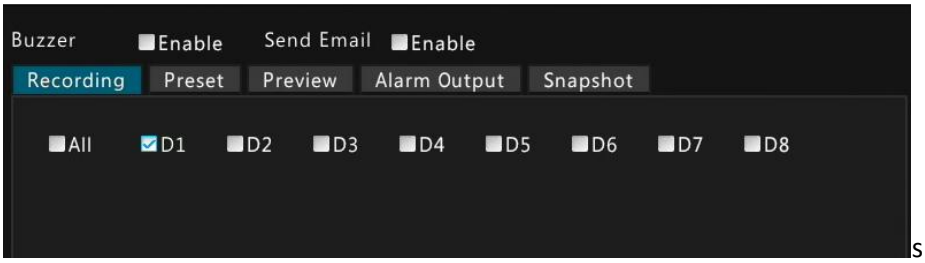
1. Click **Menu** > **Alarm** > **Alarm Input**.
2. Select the desired camera and then click **Set**.
3. In the dialog box displayed, select **Enable**, select the desired trigger mode from the drop-down list, **Normally Open** or **Normally Closed**, and then click **OK** to save the settings.



NOTE!

To apply the settings to other camera(s), click **Copy** and then select the desired camera(s).

4. Click **Trigger Actions**. On the **Recording** tab, select the desired camera(s).

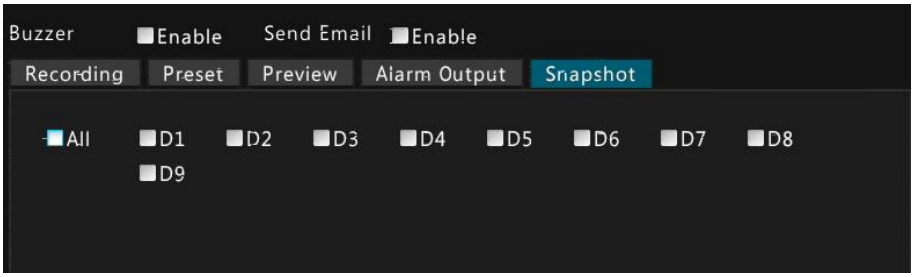


5. Set a recording schedule (see Scheduled Recording for detailed steps) as needed. Make sure you select **Alarm** from the **Type** drop-down list. The following figure shows an example schedule for alarm input triggered recording.

Alarm Input Triggered Snapshot

Enable alarm input for the desired camera(s) first. See steps 1 to 2 in Alarm-Triggered Recording for details. And then perform the following steps:

1. Click **Trigger Actions**, click the **Snapshot** tab, and then select the desired camera(s).



2. Configure a snapshot schedule (see Scheduled Snapshot for the detailed steps) as needed. Make sure you select **Alarm** from the **Type** drop-down list. The following figure shows an example schedule for alarm input triggered snapshot.

Manual Recording and Snapshot

Manual Recording

Manual recording means you manually record audio and video from a camera to a hard disk. Manual recording is different from scheduled recording and alarm-triggered recording.

Two options are available:

- Option 1

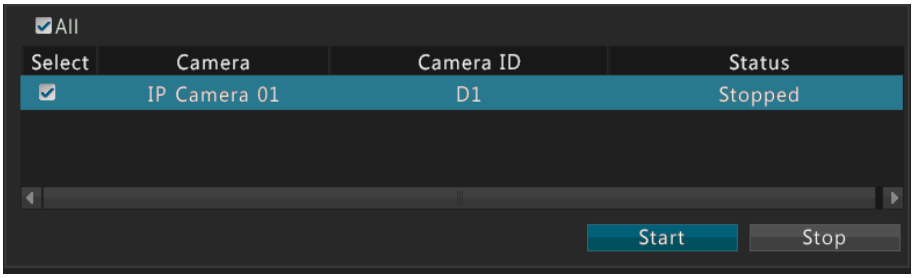
Click the desired preview window and then click on the toolbar to start recording.

The icon appears in the upper right corner when recording is started. To stop recording, click on the toolbar.

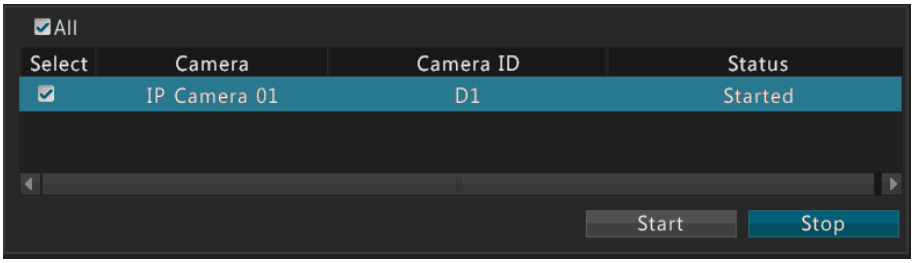
- Option 2

Click **Menu** > **Manual** > **Recording**, select the desired camera, and then click **Start** to start recording.

The icon appears in the upper right corner of the preview window when recording is started.

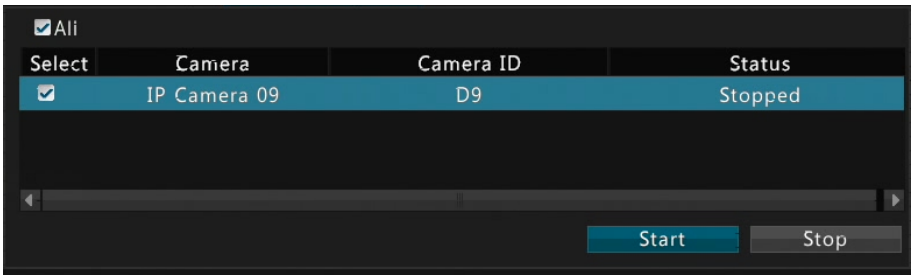


To stop recording, click **Menu** > **Recording**, select the desired camera, and then click **Stop**.

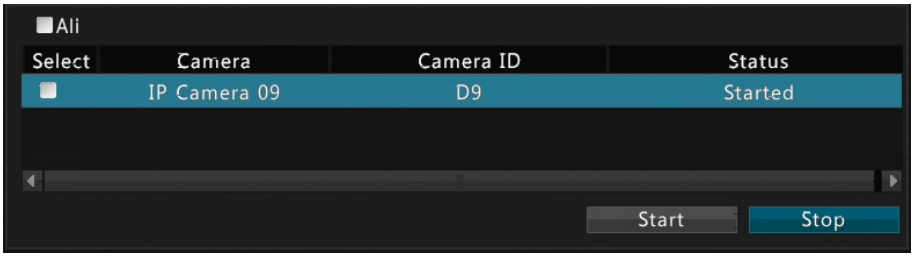


Manual Snapshot

1. Click **Menu** > **Manual** > **Snapshot**. Select the desired camera and then click **Start**.



2. To stop snapshot, select the desired camera and then click **Stop**.



Other Recording and Snapshot Methods

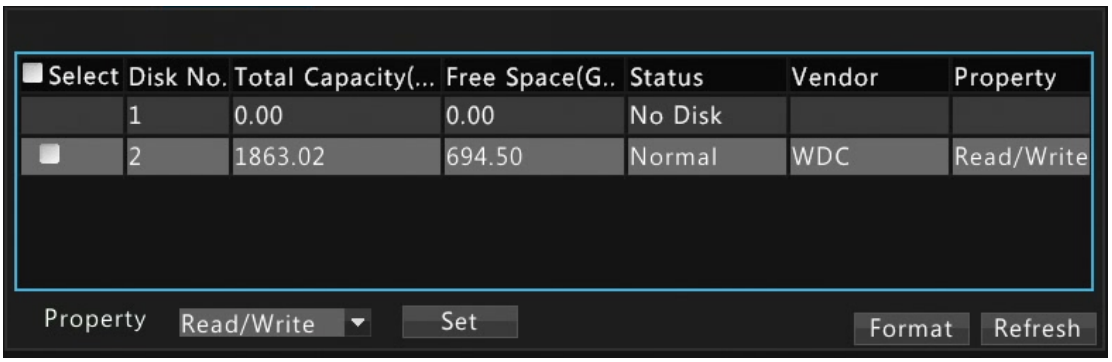
Other recording and snapshot methods refer to recording or snapshot triggered by motion detection and/or alarm input. For example, recording triggered by motion detection and alarm input means that recording will be triggered only when a motion detection alarm AND an alarm input occur simultaneously. Recording triggered by motion detection or alarm input means that recording will be triggered when a motion detection alarm OR an alarm input occurs.

For more details, refer to Motion Detection Triggered Recording and Snapshot.

Disk Management

Make sure that the hard disks are correctly installed before you start. Only admin can format a hard disk or set disk properties.

1. Click **Menu** > **Storage** > **Hard Disk**.



NOTE!

The **Hard Disk** tab displays disk information, including total capacity, free space, and disk status.

2. Set disk properties.
   a. Select the disk to set.
   b. Select the desired option from the **Property** drop-down list.
   c. Click **Set**.

NOTE!

- The device enables you install a disk first and then format it.
- Format a hard disk with caution. This operation will remove all the data from the disk.

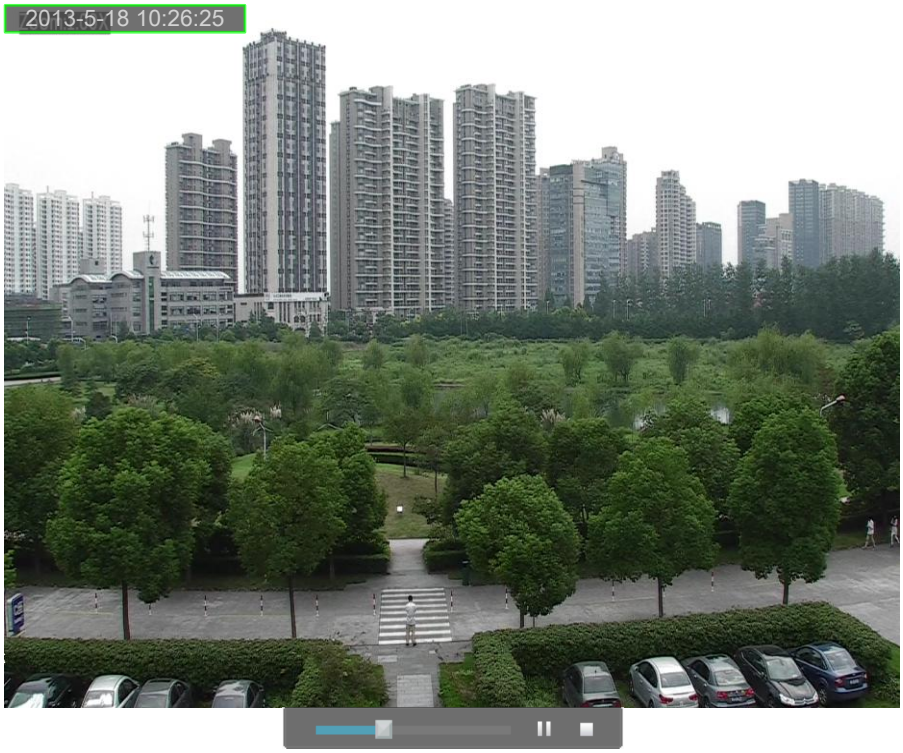
7 Playback

Instant Playback

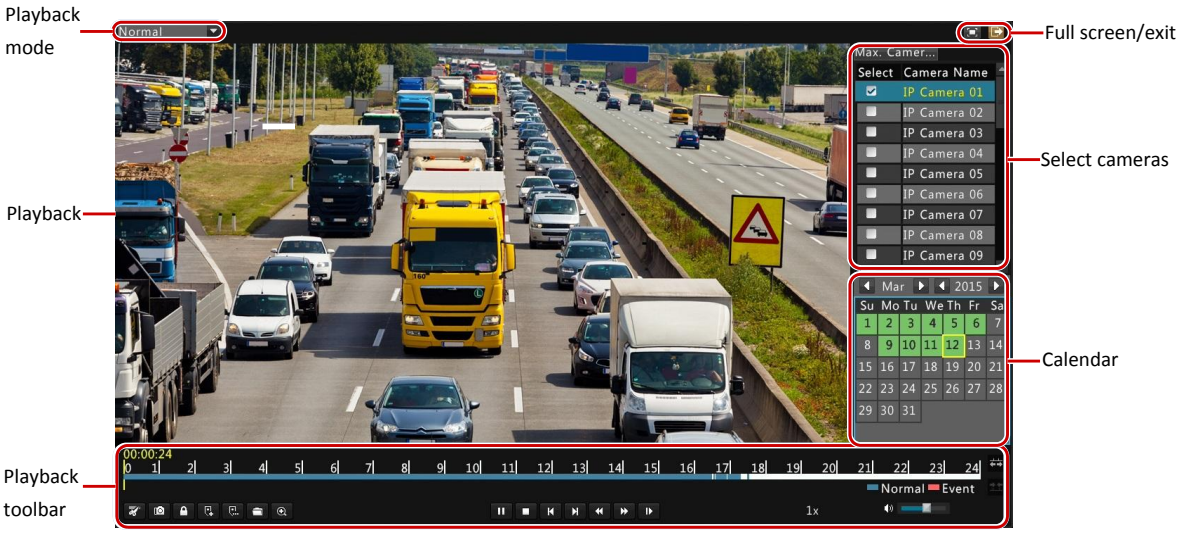
Instant playback means the playback of video recorded within five minutes. This function is convenient when you have detected an exception in live view.

This function requires a recording for the past five minutes.

1. Click the desired pane in the preview window and then click  .
2. Use the slider to control the progress, and click the buttons to pause or stop playback as required.



Playback Window Description

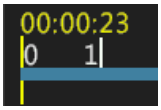


NOTE!

The appearance of the playback window may vary, depending on the playback mode you choose.

Figure 7-1 Playback Toolbar

Table 7-1 Playback Toolbar Buttons

Button	Description
	Display playback progress. ***Note**: After playback is started, you can move the slider to a desired point and start playback from there.*
	Playback progress bar.
	Play/pause/stop.
	Rewind/Forward 30 seconds.
	Slow down or speed up the playback. ***Note**: You can click  to restore the normal playback speed after clicking  , and vice versa.*
	Forward by frame.
	Start/stop clipping video.
	Take a snapshot during playback.
	Lock
	Add a default/custom tag
	Click to manage files.
	Zoom in on images. For details, see Zoom.
	Zoom out or zoom in on the timeline.
	Adjust volume for the current window.

Normal Playback

Normal playback means that you play recordings that are retrieved by camera and date.

1. Click **Menu** > **Playback**, or right-click anywhere on the screen and then choose **Playback**.
2. Select the desired camera(s). The camera that is selected first is the main camera and is highlighted in yellow.

NOTE!

- You can select multiple cameras for synchronous playback. The calendar indicates recording status for the main camera only.
- The **Max. Camera for Playback** button is used to select the maximum number of cameras for synchronous playback. The performance of synchronous playback varies with device model and the number of cameras that you have selected. Synchronous playback allows up to sixteen cameras.

3. Double-click the desired date to start playback.

NOTE!

- You can also select the desired date and then click  to start playback.
- Only dates with the green background in the calendar have recording.

Playback in Corridor Mode

You can play the retrieved recordings in corridor mode.

1. Select **Corridor** from the drop-down list in the playback window.

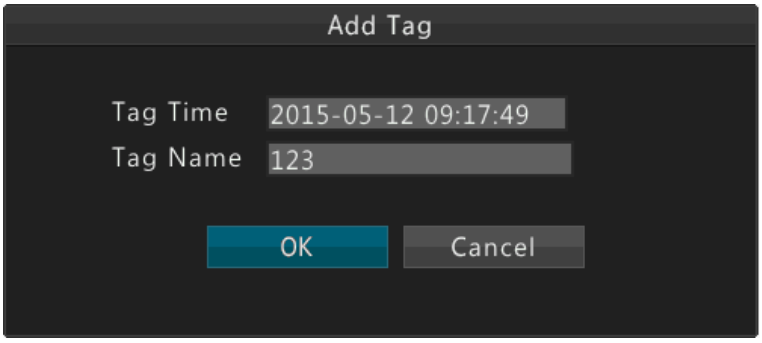
2. Select the desired cameras and then double-click the desired date to start playback.

Playback by Tag

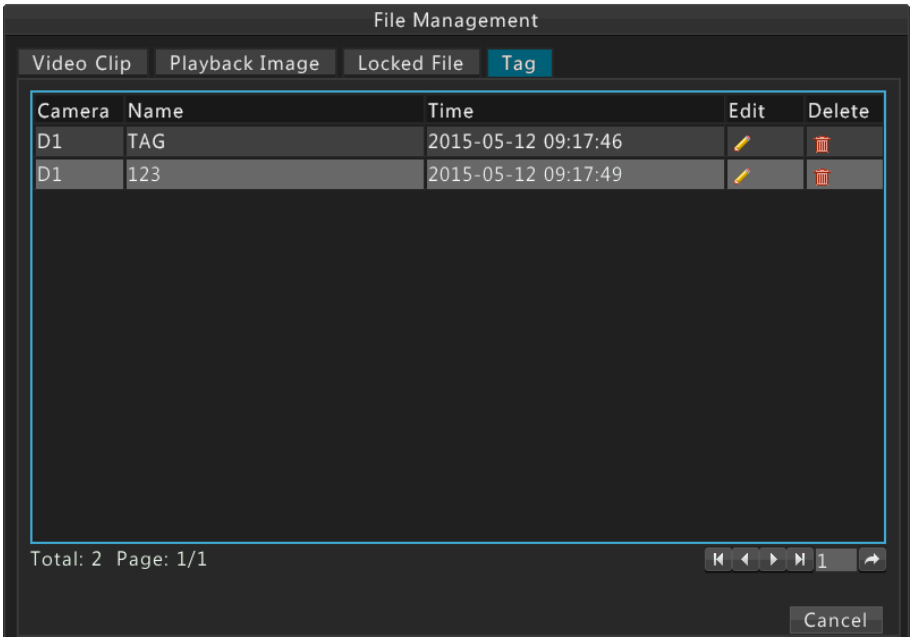
You can add tags to recordings and use these tags to retrieve recordings.

Adding a Tag

1. Click **Menu** > **Playback**, or right-click anywhere on the screen and then choose **Playback**.
2. Add a tag using one of the following methods:
   a. Click  to add a default tag by the name of TAG.
   b. Click  and then enter the desired tag name. The following figure shows an example.

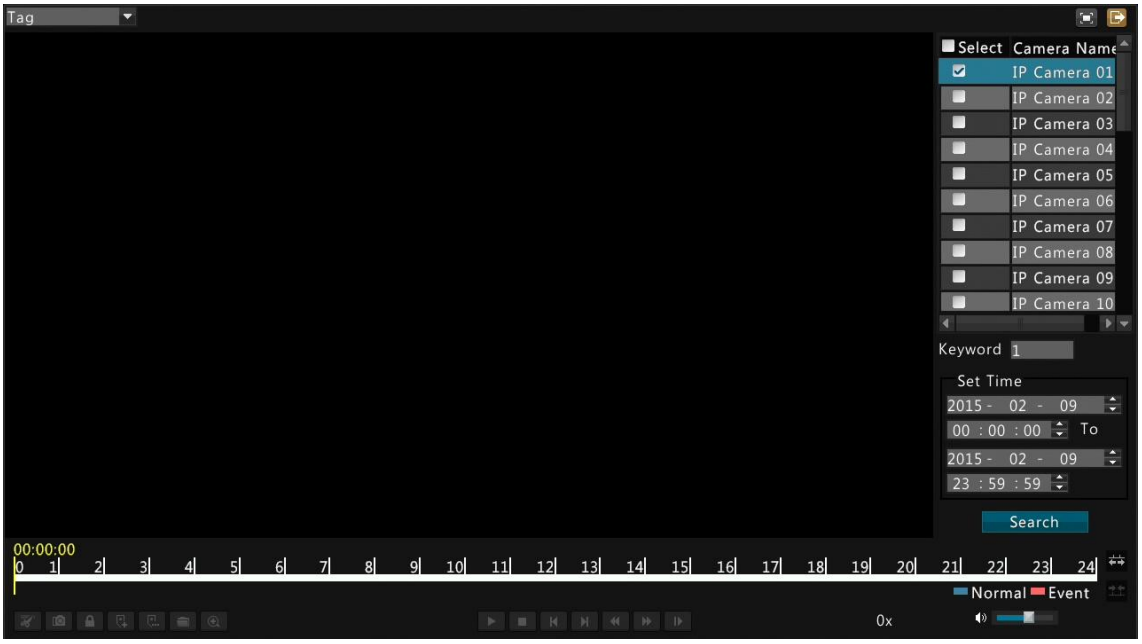


3. Click  to manage tags. Click the **Tag** tab, and then you can view, edit or delete the listed tags as needed.

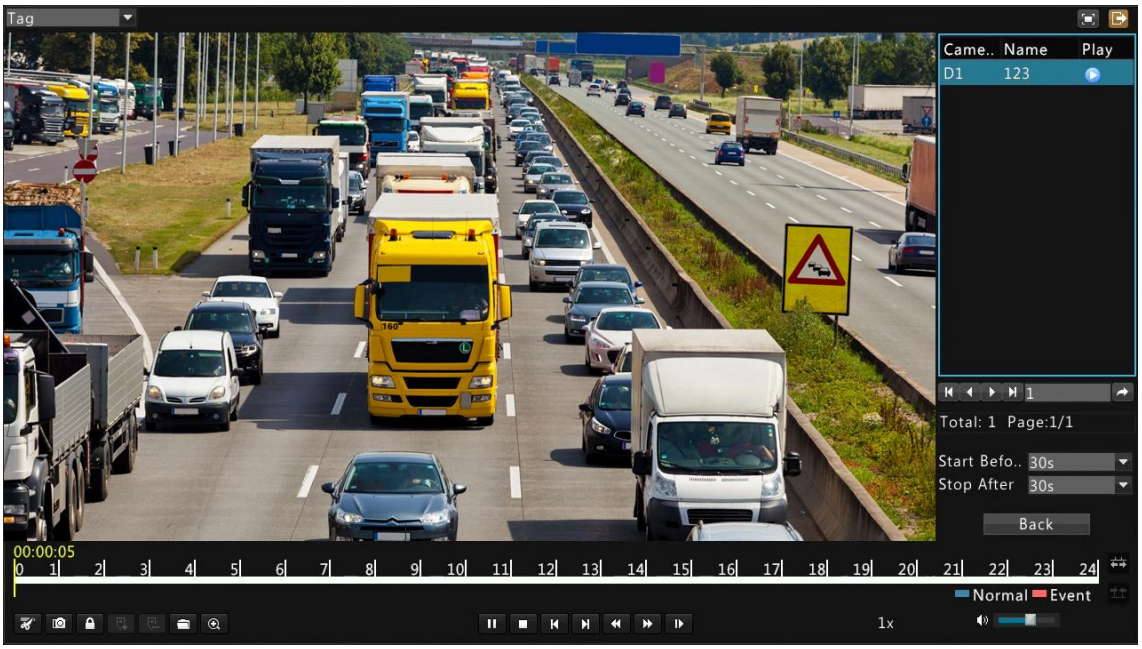


Playback by Tag

1. Select **Tag** from the drop-down list in the upper left corner of the playback window.



2. Select the desired camera, set the time period, and then click **Search**.
3. Click  for the desired tag to start playback.



Playback by Event

You can specify an event type and search for recordings of one or more cameras for playback.

1. Select **Event** from the drop-down list in the upper left corner of the playback window.
2. Select the desired event type, for example, motion, select the desired camera, set the time period, and then click **Search**.
3. Click  for the desired recording to start playback.

Smart Playback

The device can automatically adjust the playback speed based on whether the recording includes smart search results. For the part that does not contain smart search results, the recording plays at 16x speed. When it reaches the part that contains smart search results, the playback slows down to the normal speed.

NOTE!

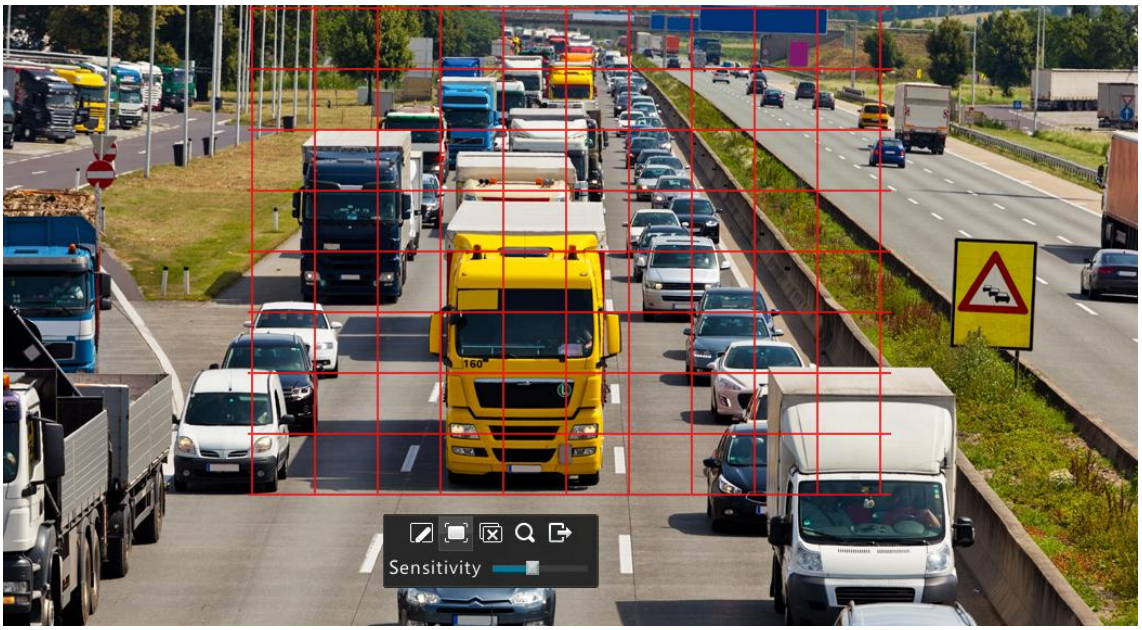
Motion detection is the default smart search mode.

1. Select **Smart** from the drop-down list in the playback window.
2. Click for the desired camera to start smart playback.

3. Click . The smart search window is displayed in full screen.
4. Set smart search rules.

Table 7-2 Smart Search Buttons

Button	Description	Button	Description
	Motion detection in full screen		Clear all screen
	Search		Specify a triangle area for motion detection
	Exit		



5. Click to start smart playback.

NOTE!

Smart search rules for motion detection require the camera to support this function.

Playback by External File

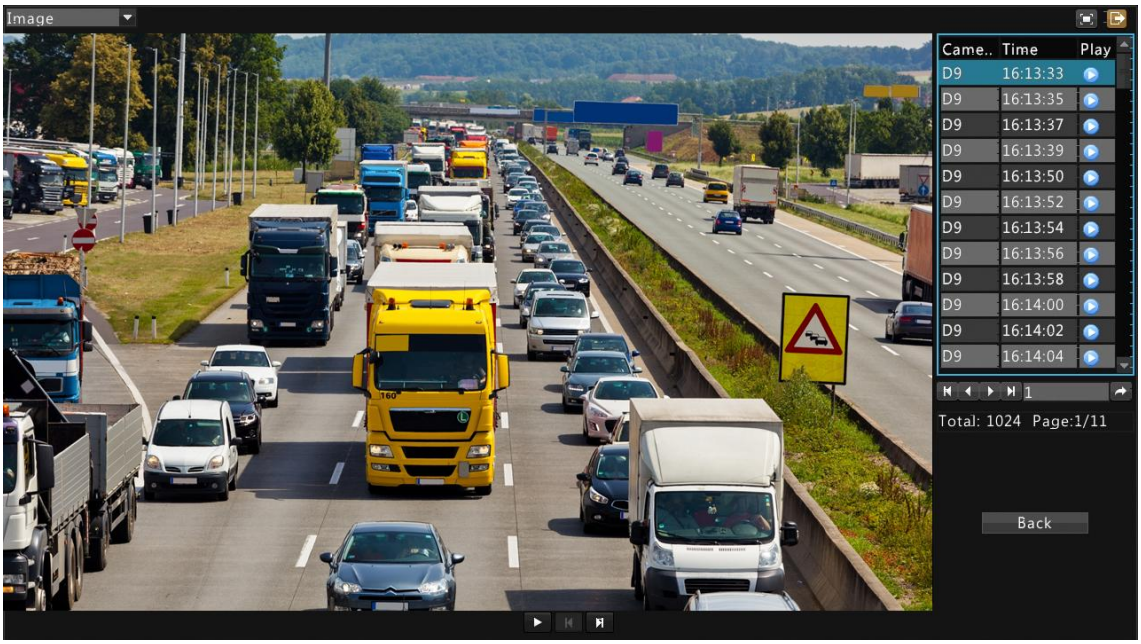
Playback by external file means playing recording files stored in an external storage device, for example, a USB drive or other portal hard drives.

1. Select **External File** from the drop-down list in the upper left corner of the playback window.
2. Click **Refresh** and wait for the device to read the external storage device.
3. Locate the desired file and then click to start playback.

Playback by Image

Playback by image allows you to specify an image type (normal or motion) to search for images captured by one or more cameras during a given time period and view the retrieved images one by one.

1. Select **Image** from the drop-down list in the upper left corner of the playback window.
2. Select the desired type from the **Type** drop-down list, for example, **Preview Snapshot**, select the desired camera, set the time period you want to query, and then click **Search**. Search results are displayed.
3. Select the desired file and then click to start playback. You may also click at the bottom of the window to play images from the listed cameras one by one.



File Management

File management allows you to manage video clips, snapshot images, locked files and tags.

1. Take snapshot during playback.

a. Click  to take snapshots in all the playback windows. That is to say, if recordings are playing in four windows, for example, then snapshots are taken for all the four windows.

b. Click  and then click the **Playback Image** tab to view the snapshots.

c. Select the desired image file(s) and then click **Backup** to save them to the storage device.

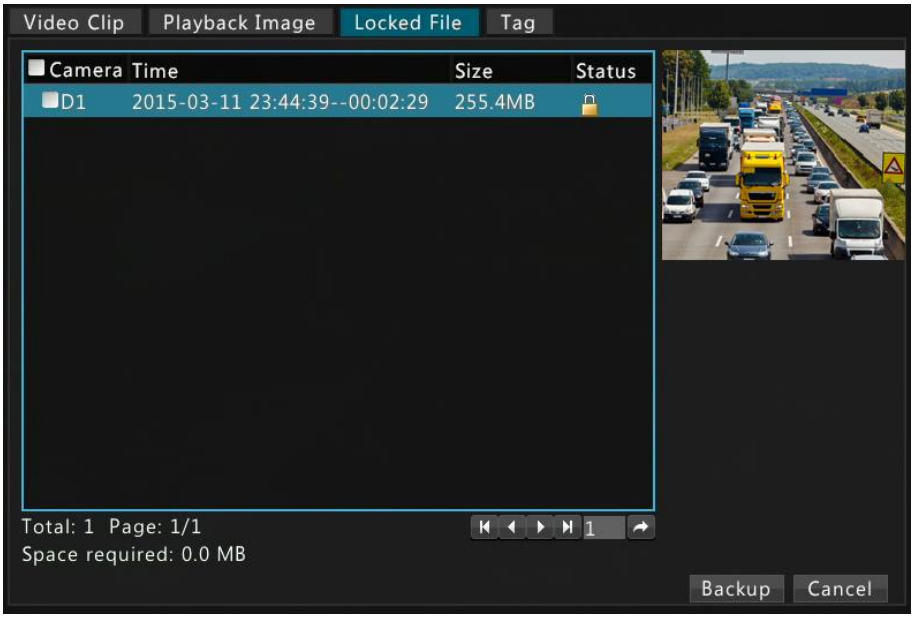
2. Lock files

   a. Click  for the recording you want to lock in the playback window.

   b. Click  and then click the **Locked File** tab to check the status of the locked file. You can also perform the following operations on the **Locked File** tab:

   To unlock a file, click  . If the file status changes to  , the file is unlocked.

   To back up a file, select the file and then click **Backup**.



8 Backup

Recording Backup

Backup, also known as recording backup, refers to the process of querying video stored on a hard disk of the device and then saving the recording to a USB drive as a file. The following conditions must be met for backup:

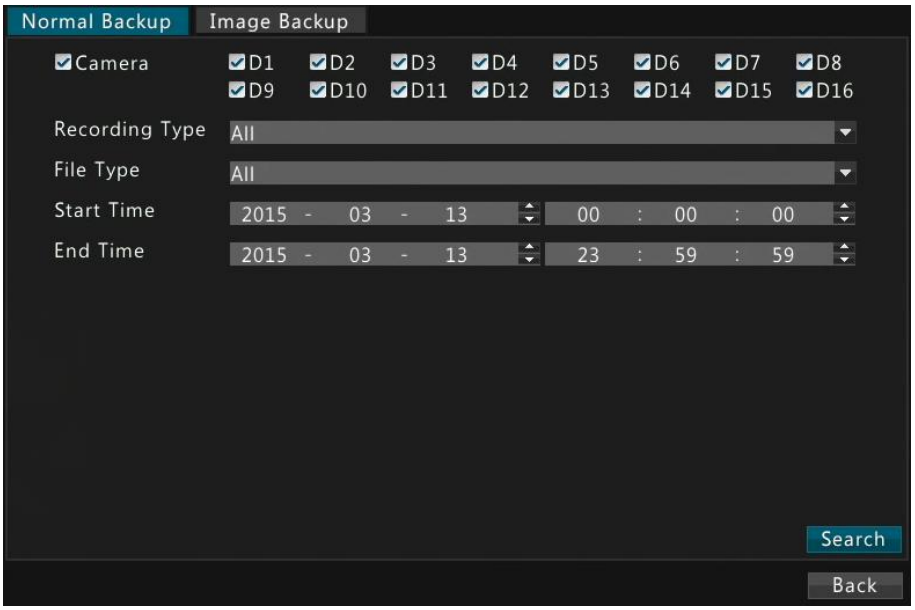
- The USB drive has been formatted into a FAT32 or NTFS file system and correctly plugged into the device.
- You have permission to local playback for the corresponding camera.
- A recording is stored on the hard disk.

NOTE!

By default a recording is backed up as a *.mp4 file.

Normal Backup

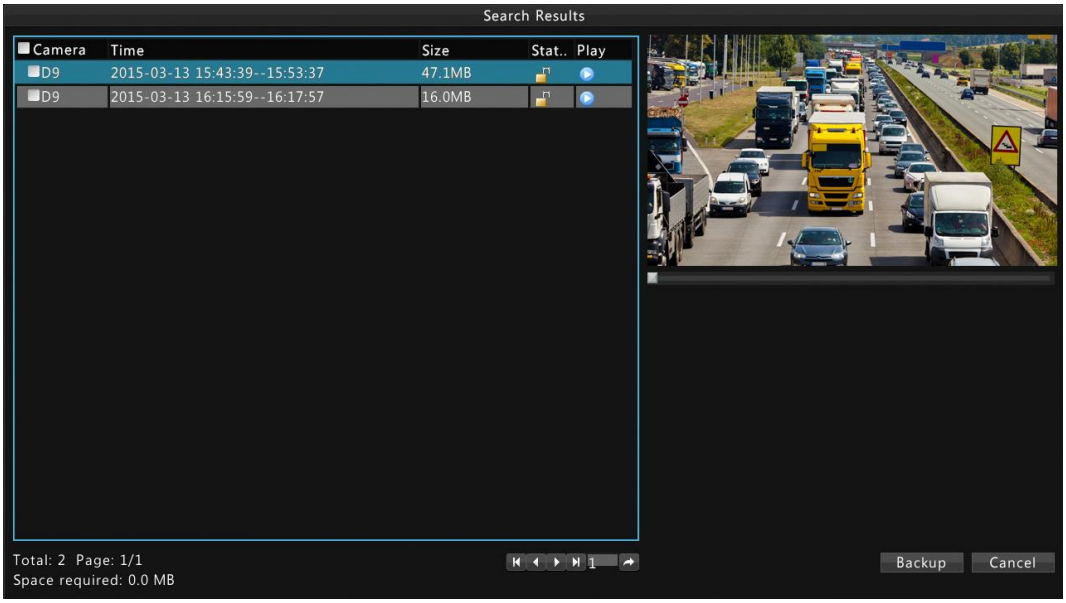
1. Click **Menu** > **Backup > Normal Backup**.



NOTE!

All the cameras are selected by default.

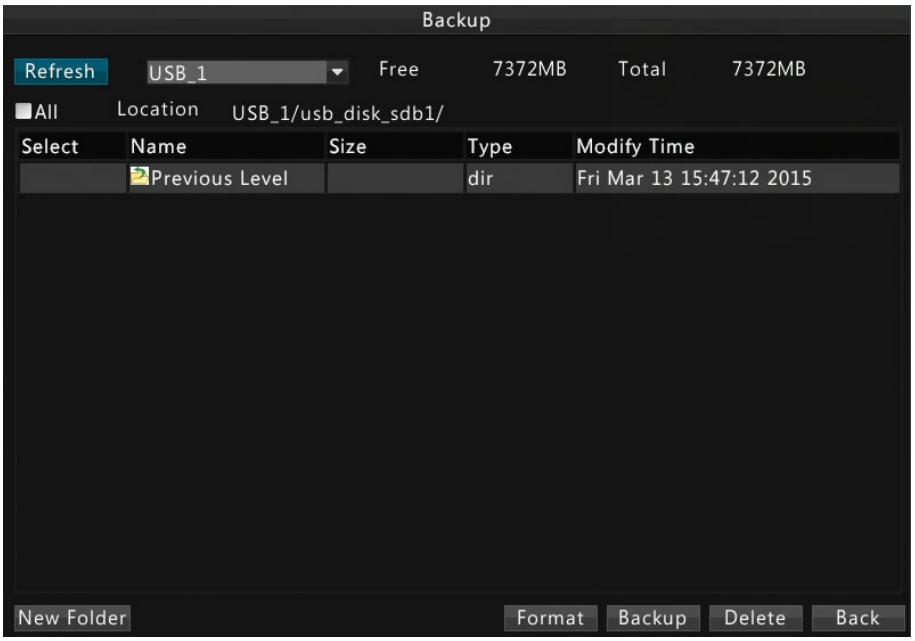
2. Set search criteria and then click **Search**. Search results are displayed.



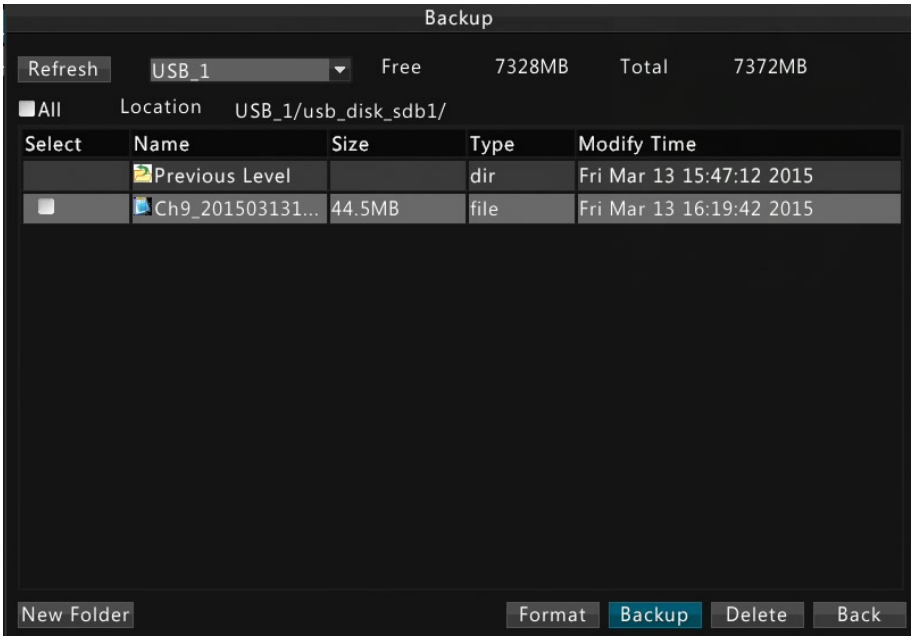
NOTE!

You can also lock and unlock recording files in this window.

3. Select the desired recording(s) and then click **Backup**.



4. Select the desired partition of the USB storage device and the destination folder, and then click **Backup**. The selected recordings are saved to the specified directory.



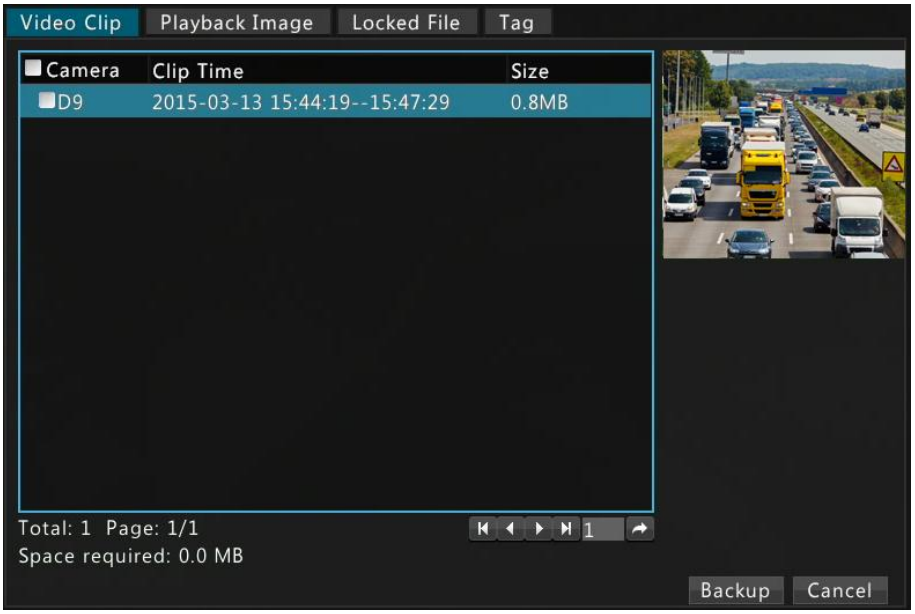
NOTE!

- You can create a new folder and then double-click the folder to select it as the destination for backup.
- After backup is started, **Exporting** *X*/*Y* is displayed to indicate the progress. The *X* indicates the current recording being backed up, and the *Y* indicates the total number of recordings to be backed up. To cancel the operation, click **Cancel**.
- A backup file is named in this format: *camera name-recording start time*.file extension. For example, Ch1-20141222000000.mp4.

Video Clip Backup

You can clip a recording and save the clip in a USB storage device for backup.

1. Open the playback window. For the detailed steps about how to open the playback window, see Playback.
2. After playback is started, click  and  on the playback toolbar to start or stop clipping.
3. Click  and then click the **Video Clip** tab to view the video clip(s).



4. Select the desired video clip and then click **Backup**.
5. Select the desired partition of the USB storage device and the destination folder, and then click **Backup**. The selected video clips are saved to the specified directory.

NOTE!

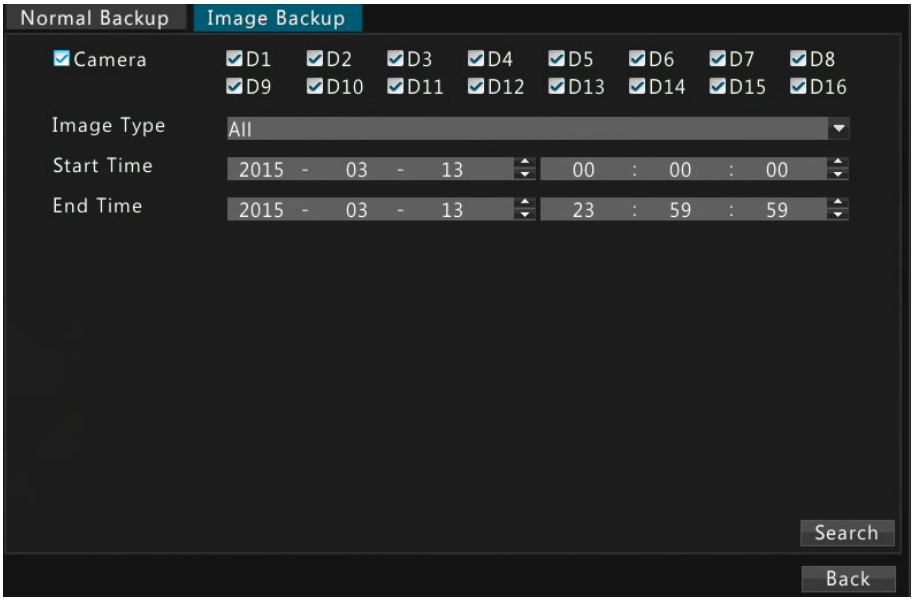
- After backup is started, **Exporting** *X*/*Y* is displayed to indicate the progress. The *X* indicates the current recording being backed up, and the *Y* indicates the total number of recordings to be backed up. To cancel the operation, click **Cancel**.
- A backup file is named in this format: camera name-recording start time. For example, Ch1-20141222000000.mp4.

Image Backup

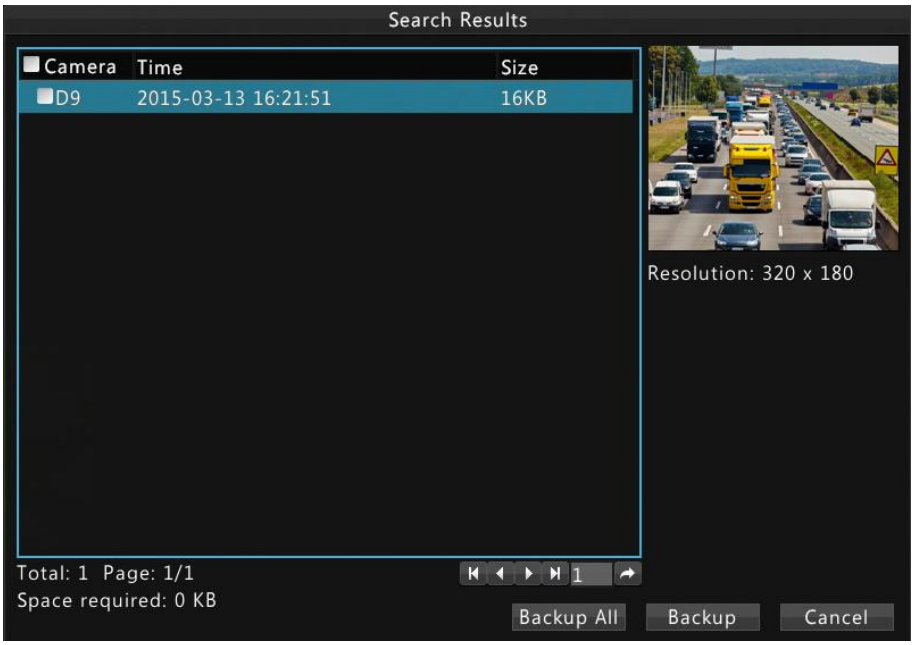
NOTE!

The default format of image backup is JPEG.

1. Click **Menu** > **Backup** > **Image Backup**.



2. Set search criteria and then click **Search**. Search results are displayed.

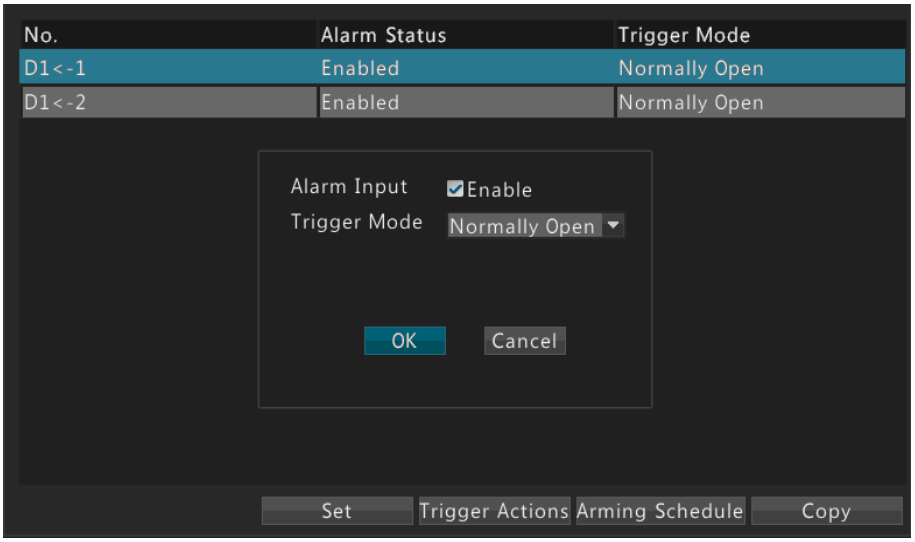


3. Select the desired file(s) and then click **Backup**.
4. Select the desired partition of the USB storage device and the destination folder, and then click **Backup**. The selected files are saved to the specified directory.

9 Alarm

Alarm Input

1. Click **Menu** > **Alarm** > **Alarm Input**.
2. Select the desired camera, click **Set**, select **Enable** and the correct trigger mode, and then click **OK**.



NOTE!

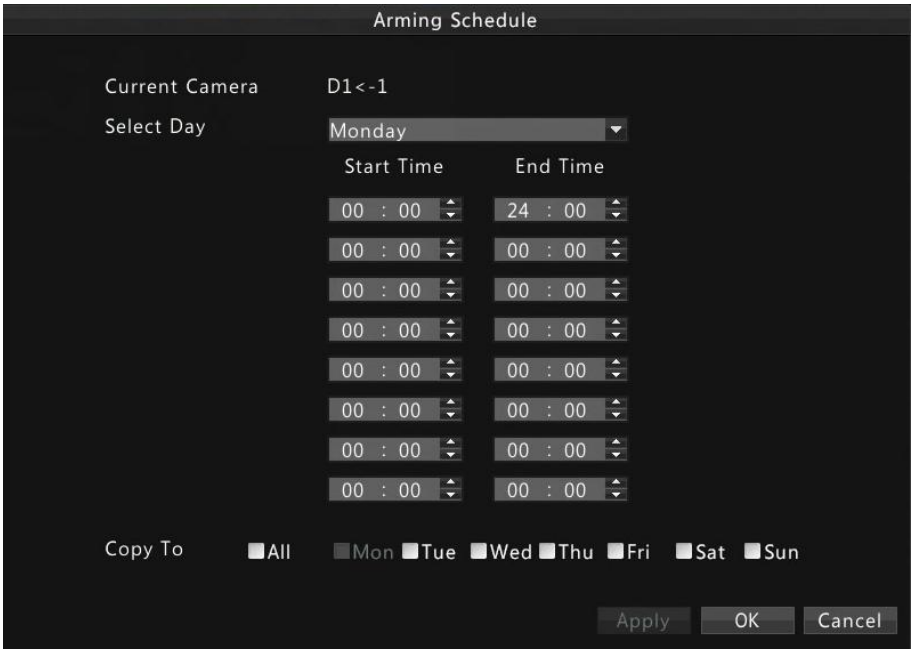
To apply the same settings to other cameras, click **Copy** and then select the desired cameras.

3. Click **Trigger Actions** and configure action(s) to trigger. For more details, see Alarm-Triggered Actions.

NOTE!

The number of cameras supported and the number of alarm-triggered actions supported may vary with device model.

4. Set an arming schedule.



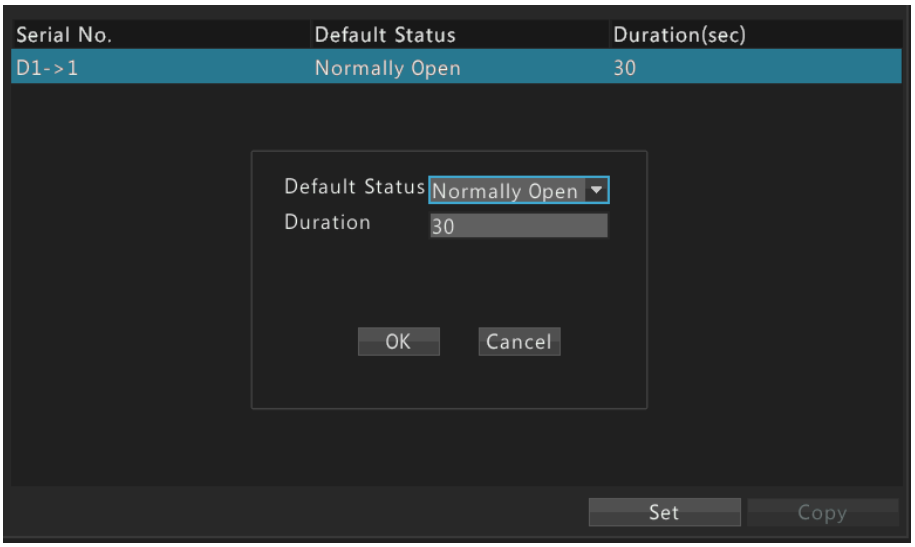
   a. Click **Arming Schedule**.
   b. Set the schedule as required.
   c. After you have completed the configuration, click **Apply**.

NOTE!

- Up to eight time periods are allowed for each day. Overlapping time periods are not allowed.
- To apply the schedule to other days, select the day(s) right to **Copy To**.

Alarm Output

1. Click **Menu** > **Alarm** > **Alarm Output**.
2. Select the desired camera, click **Set**, select the correct trigger mode, and set the duration.



3. After you have completed the configuration, click **OK**.

NOTE!

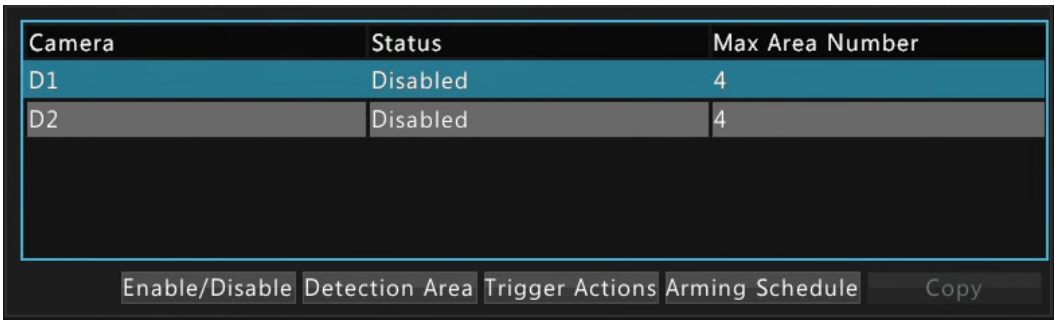
To apply the same settings to other cameras, click **Copy** and then select the desired cameras.

Motion Detection

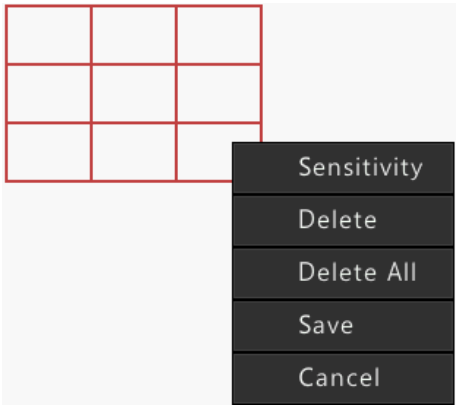
Motion detection requires preset detection area(s) in the preview window so an alarm will be triggered when motion inside the area(s) reaches a certain extent.

By default, motion detection is effective to the whole preview window when enabled on the device. Enabling motion detection for a camera can trigger video recording for the camera. If motion detection and triggered recording have been configured, the configuration remains effective after you enable motion detection.

1. Click **Menu** > **Alarm** > **Motion Detection**.
2. Select the desired camera and then click **Enable/Disable** to enable motion detection.



3. Set a detection area.
   a. Click **Detection Area**.
   b. Click and drag the mouse to specify a detection area.
   c. To set detection sensitivity, right-click the detection area, click **Sensitivity** on the shortcut menu, and then set as needed.
   d. After you have completed the configuration, click **Save** to save the settings.

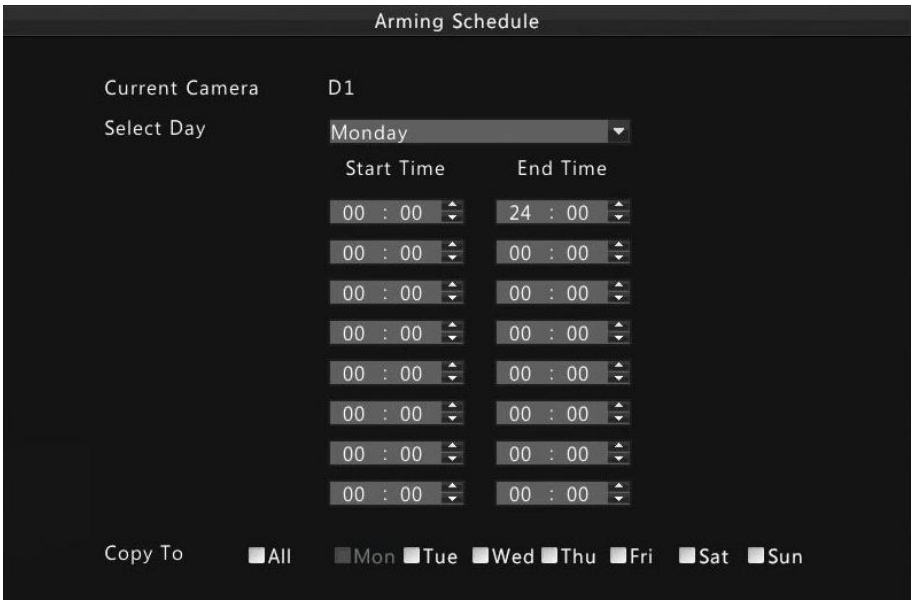


4. Click **Trigger Actions** and configure action(s) to trigger. For more details, see Alarm-Triggered Actions.

NOTE!

The number of cameras supported and the number of alarm-triggered actions supported may vary with device model.

5. Set an arming schedule.
   a. Click **Arming Schedule**.
   b. Set the schedule as required.
   c. After you have completed the configuration, click **Apply**.



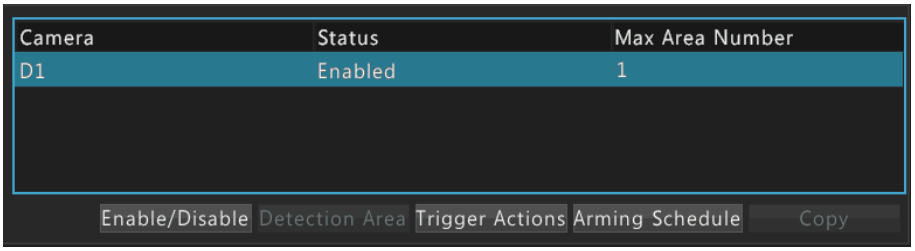
NOTE!

Up to eight different time periods are allowed for each day. Overlapping time periods are not allowed.

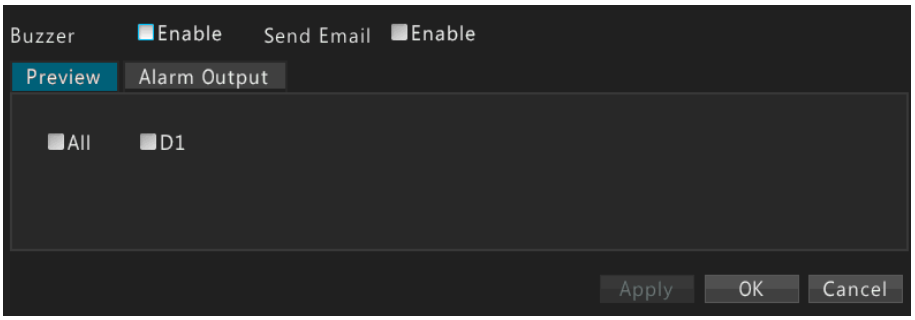
Tampering Detection

Tampering detection requires a preset detection area on the screen so an alarm will be triggered when the detection area is blocked. To enable tampering detection, you also need to set detection sensitivity, action(s) to trigger, and an arming schedule.

1. Click **Menu** > **Alarm** > **Tampering Detection**.
2. Select the camera and then click **Enable/Disable** to enable tampering detection alarm.



3. Click **Trigger Actions** and configure action(s) to trigger. For more details, see Alarm-Triggered Actions.



NOTE!

The number of cameras supported and the number of alarm-triggered actions supported may vary with device model.

4. Set an arming schedule.
   a. Click **Arming Schedule**.
   b. Set the schedule as required.
   c. After you have completed the configuration, click **Apply**.

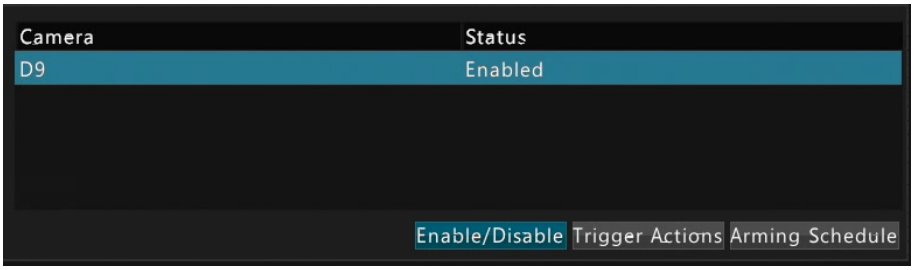
NOTE!

Up to eight different time periods are allowed for each day. Overlapping time periods are not allowed.

Video Loss

A video loss alarm is triggered when video signals from a camera are lost.

1. Click **Menu** > **Alarm** > **Video Loss**.
2. Select the desired camera and then click **Enable/Disable** to enable video loss alarm.



3. Click **Trigger Actions**, and then configure actions to trigger. For more details, see Alarm-Triggered Actions.

NOTE!

For video loss alarms, alarm-triggered recording, preset, preview, alarm output, and snapshot cannot be associated to the cameras from which video signals are lost.

4. Configure an arming schedule.

a. Click **Arming Schedule**.
b. Set the schedule as required.
c. After you have completed the configuration, click **Apply**.

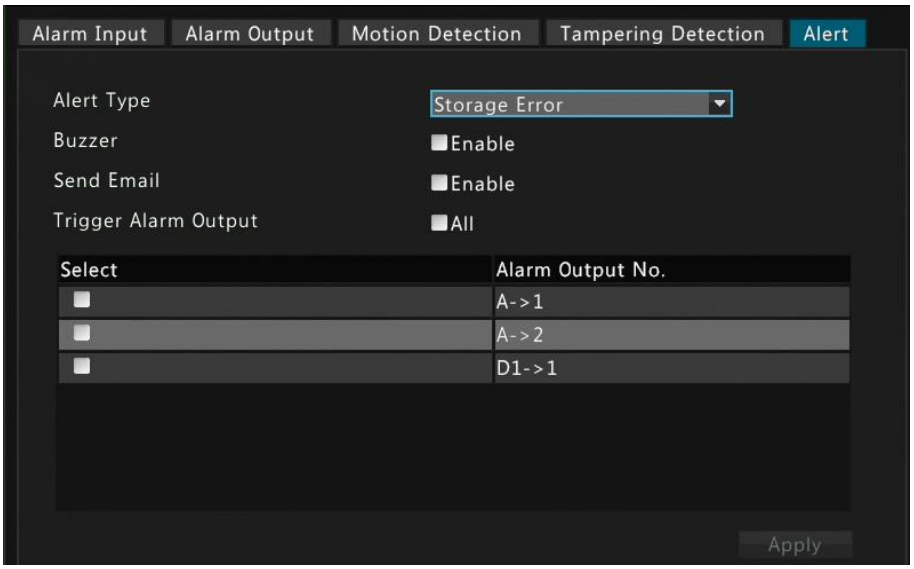
Alert

Alert configuration is for the purpose of handling reported alerts, including:

- **Storage Error**: Recording failed.
- **Disk Offline**: The disk cannot be discovered for it is not properly connected or is damaged.
- **Disk Abnormal**: The disk can be discovered but cannot be read and written to.
- **Illegal Access**: The username does not exist or the password is incorrect.
- **Network Disconnected**: The network cable is disconnected.
- **IP Conflict**: Duplicate IP addresses exist.

Perform the following steps to configure an alert:

1. Click **Menu** > **Alarm** > **Alert**.
2. Select the alert type, select **Enable** for the desired actions, and then select the camera(s) for which you want to enable alarm output.



3. After you have completed the configuration, click **Apply**.
4. Click **Back**.

Alarm-Triggered Actions

A reported alarm can be set to trigger multiple actions, including buzzer, recording, and preview. The supported alarm-triggered actions may vary with device model.

Alarm-Triggered Buzzer

The device starts to sound the buzzer when an alarm is reported.

Alarm-Triggered E-mail

The device e-mails alarm messages to the specified email address when an alarm is reported.

Alarm-Triggered Recording

The device starts to record live video from the specified camera(s) when an alarm is reported.

Alarm-Triggered Preset

A PTZ camera goes to a preset position when an alarm is reported.

Alarm-Triggered Preview

With alarm-triggered preview enabled for a camera, the device starts to play live video from the camera in full screen when receiving an alarm from this camera. And meanwhile, the device starts auto-switch from the current camera with an alarm icon displayed on the screen for differentiation.

Alarm-Triggered Alarm Output

The device outputs an alarm to trigger actions to be performed by a third-party device.

Alarm-Triggered Snapshot

The device triggers the snapshot of the selected camera when an alarm is reported.

10 Network Configuration

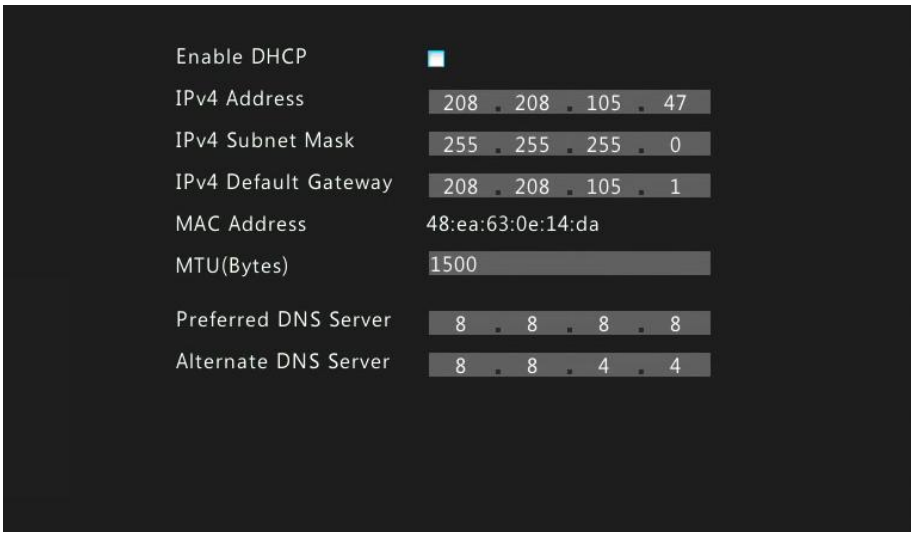
Network configuration is required if the device operates in a network.

NOTE!

The default IP address for the device is 192.168.0.30.

Basic Configuration

1. Click **Menu** > **Network** > **Basic**.
2. Set the network parameters, including IPv4 address, subnet mask, and gateway.



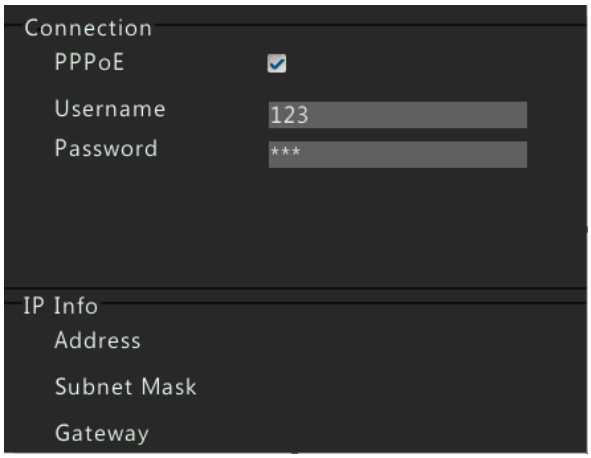
3. After you have completed the configuration, click **OK**.

NOTE!

- If a DHCP server is used on the network, you can select **Enable DHCP** to obtain a dynamic IP address.
- If your device has more than one NIC, you can select an NIC to configure and the default route.
- If your device has a PoE port or a switching port, you can configure an internal NIC IPv4 address.

PPPoE

1. Click **Menu** > **Network** > **PPPoE**.



2. Select **PPPoE**, and then enter the correct username and password provided by your Internet Service Provider (ISP). The network information will be displayed under **IP Info**.
3. After you have completed the configuration, click **OK**.

MyCloud

1. Click **Menu** > **Network** > **myCloud**.

2. Select **Enable myCloud**. (myCloud is enabled by default)

NOTE!

- If you have not downloaded the mobile app yet, scan the QR code to download the app.
- If you have downloaded the mobile app, scan the QR code using the app to obtain the registration code.

3. After you have completed the configuration, click **OK**.

DDNS

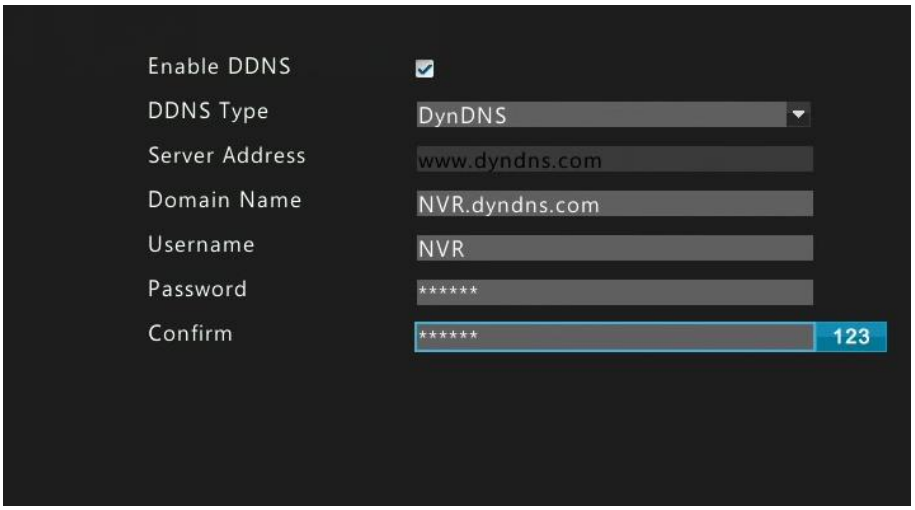
DDNS is the abbreviation of Dynamic Domain Name Service (DDNS). DDNS allows you to access your device by visiting the domain name associated with the IP address of the device, making access over the Internet easier.

1. Click **Menu** > **Network** > **DDNS**.
2. Select **Enable DDNS**.
3. Select a DDNS type from the drop-down list and then complete the settings, including domain name, username, and password.

NOTE!

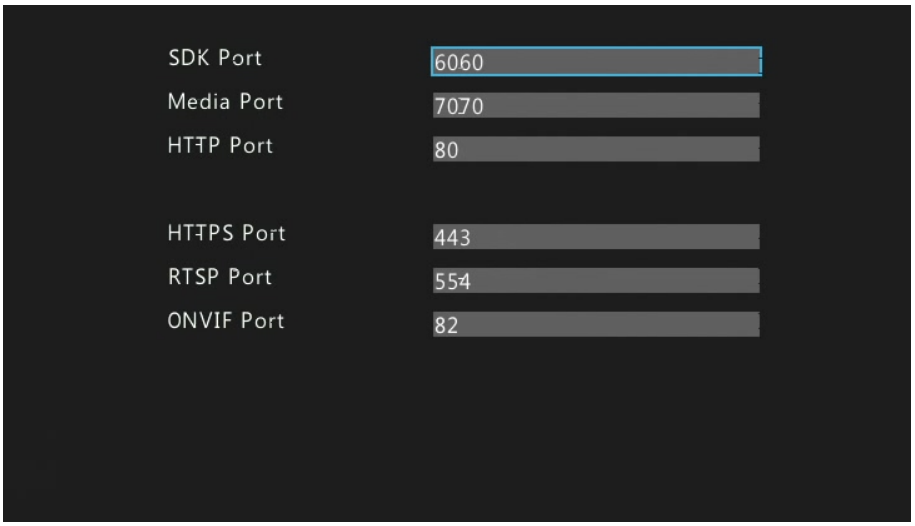
- The domain name of the device refers to the domain name that you have successfully applied for at a domain name registration website (for example, DynDNS).
- The username and password refer to the username and password of the account that you have registered at a domain name registration website (for example, DynDNS).

4. After you have completed the configuration, click **OK**.



Port

1. Click **Menu** > **Network** > **Port**.
2. Configure the following ports as planned.



NOTE!

A valid port number is in the range of 1–65535, among which 21, 23, 2000, 3702 and 60000 are reserved for other purposes. Make sure each port number configured is unique.

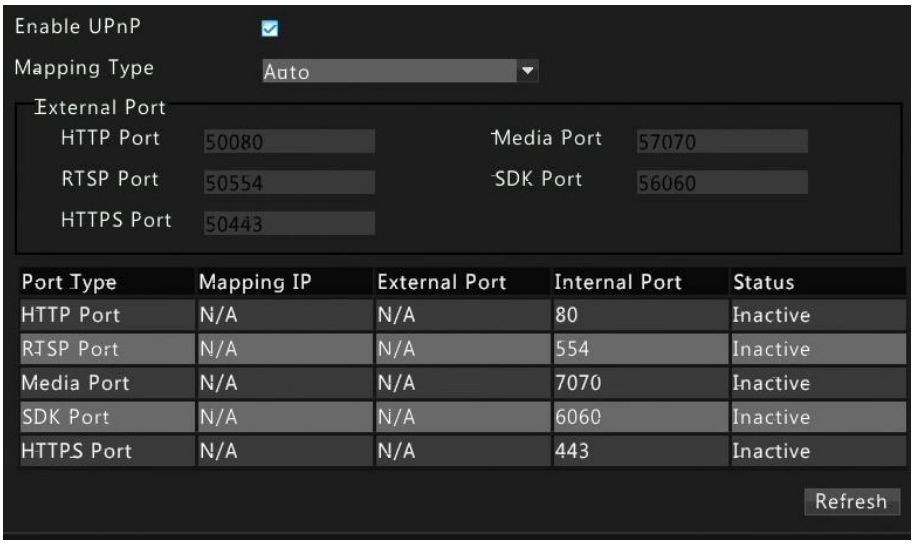
3. After you have completed the configuration, click **OK**.

Port Mapping

Two port mapping methods are available: Universal Plug and Play (UPnP) and manual mapping. UPnP enables your device to discover other devices on the network and establish network services such as data sharing and communication.

This section describes how to use UPnP for port mapping. You may also configure port mapping manually with UPnP disabled. To use UPnP in your device, you must enable UPnP in the router to which your device is connected. With UPnP enabled for Network Address Translation (NAT), the device ports can be mapped automatically to the router, and computers can access your device from outside the LAN.

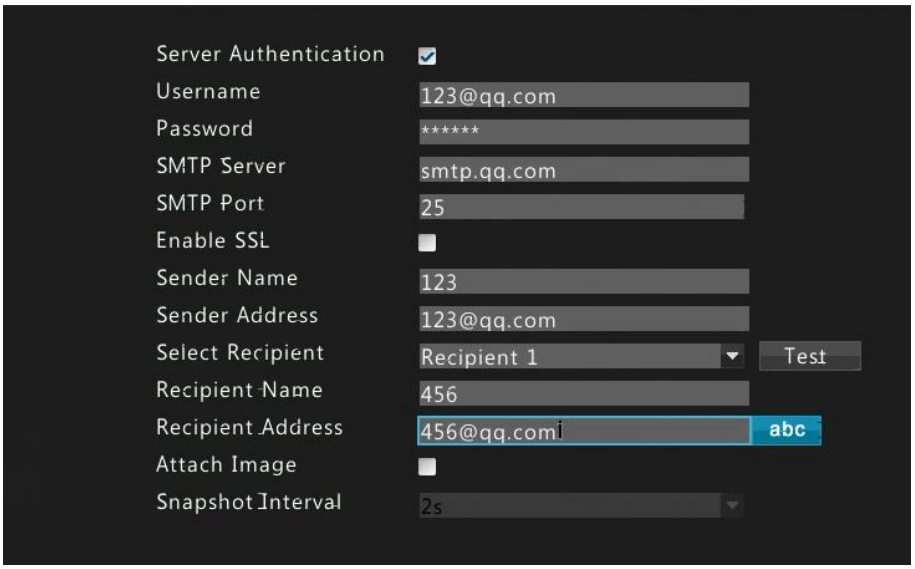
1. Click **Menu** > **Network** > **Port Mapping**.
2. UPnP is enabled in the device by default. Select the desired mapping type from the drop-down list. If you want to map ports manually, select **Manual** and then set external ports for the router.



3. After you have completed the settings, click **Apply**.
4. Click **Refresh** and verify that **Active** is displayed in the **Status** column for these ports.
5. After you have completed the configuration, click **OK**.

Email

1. Click **Menu** > **Network** > **Email**.
2. Configure the related parameters.
   To enable server authentication, enter the correct username and password.

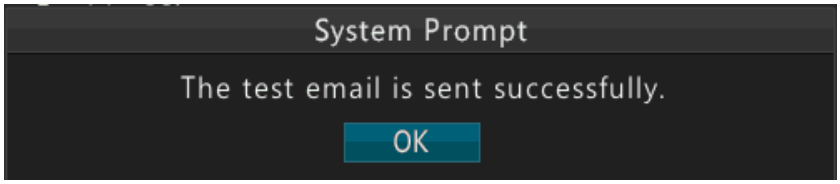


NOTE!

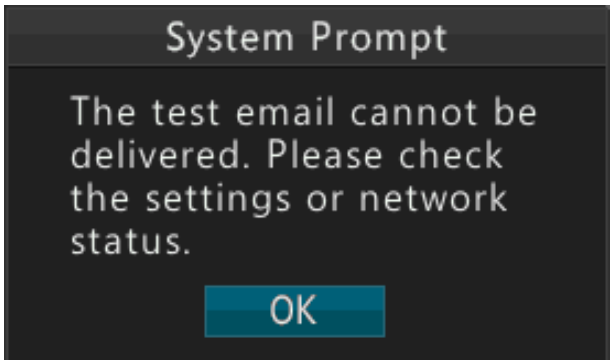
- Enter a valid SMTP server address and port number, and then select **Enable SSL** if required.
- Only some device models support image attachment. Select **Attach Image** if you want to send snapshots via email.

3. Click **Test**.

- If the test succeeds, a prompt as shown below is displayed.

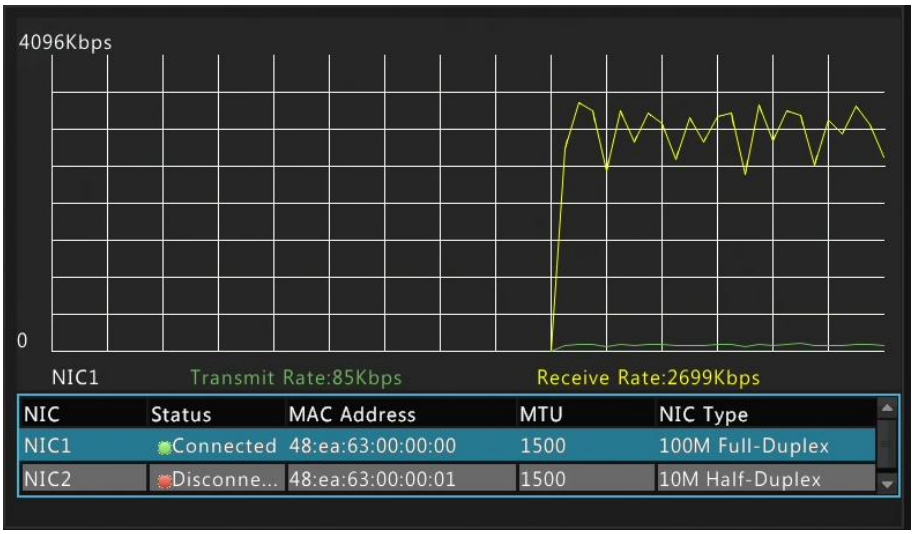


- If the test fails, a prompt as shown below is displayed.



Network Traffic

Click **Menu** > **Network** > **Traffic**. The window displays real-time information about network traffic, for example, traffic and MTU of each NIC.

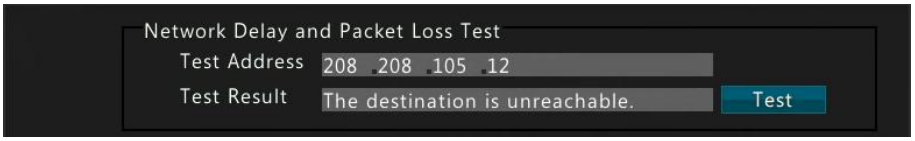


Network Detection

Test Network Delay and Packet Loss Rate

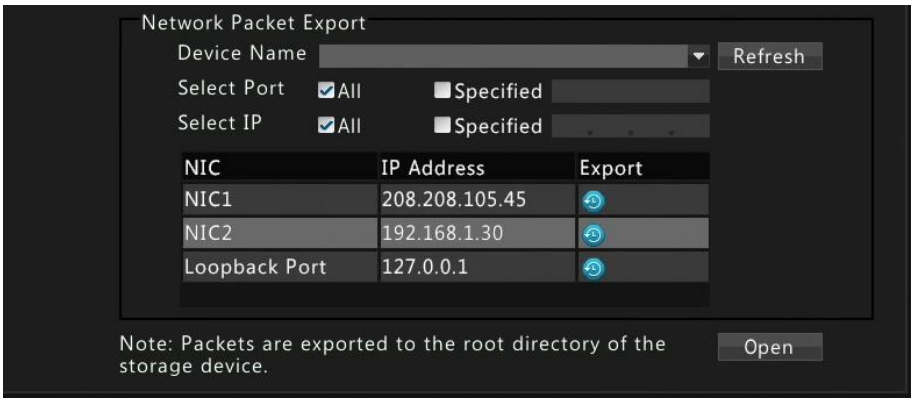
1. Click **Menu** > **Network** > **Net Detect**.
2. Enter the test address and then click **Test**.

- If the test succeeds, the average delay, packet loss rate and other information are displayed.
- If the test fails, **The destination is unreachable** is displayed.



Capture and Save Packets

1. Click **Menu** > **Network** > **Net Detect**.
2. Select the USB storage device and specify the port number and IP address.
3. Click right to the desired NIC to start capturing packets. To stop capturing packets, click **Cancel**.



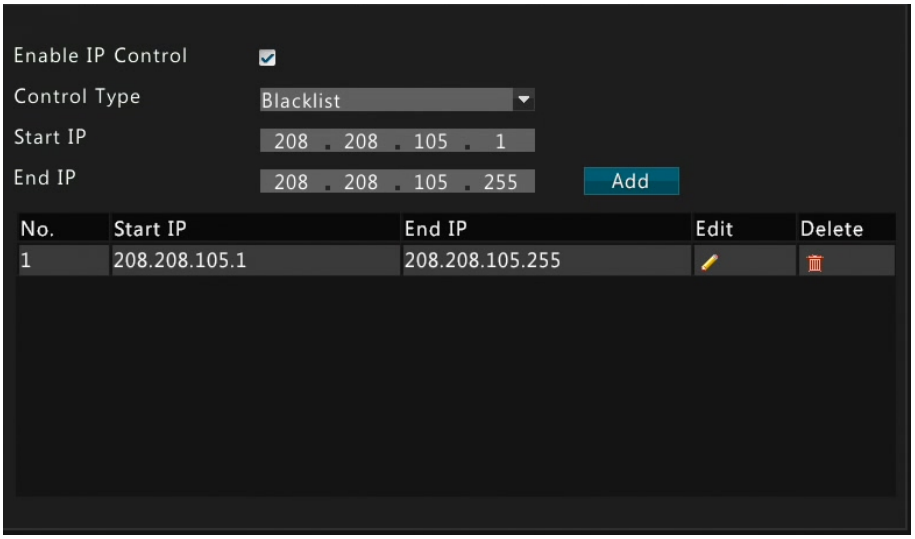
NOTE!

- You can click **Open** to view the backup file of the captured packets.
- The backup file is named in *NIC name-time* format.

IP Control

IP control is a security measure that allows you to specify IP addresses from which users can or cannot access the Web interface of the device.

1. Click **Menu** > **Network** > **IP Control**.



2. Select **Enable IP Control**.
3. Select a control type from the drop-down list, enter the start and end IP addresses, and then click **Add**.

NOTE!

- If **Blacklist** is selected, the device denies remote access from the IP address(es) on the list.
- If **Whitelist** is selected, the device only allows remote access from the IP address(es) on the list. However, if **Whitelist** is selected with no IP address specified, remote access to the device will be denied.

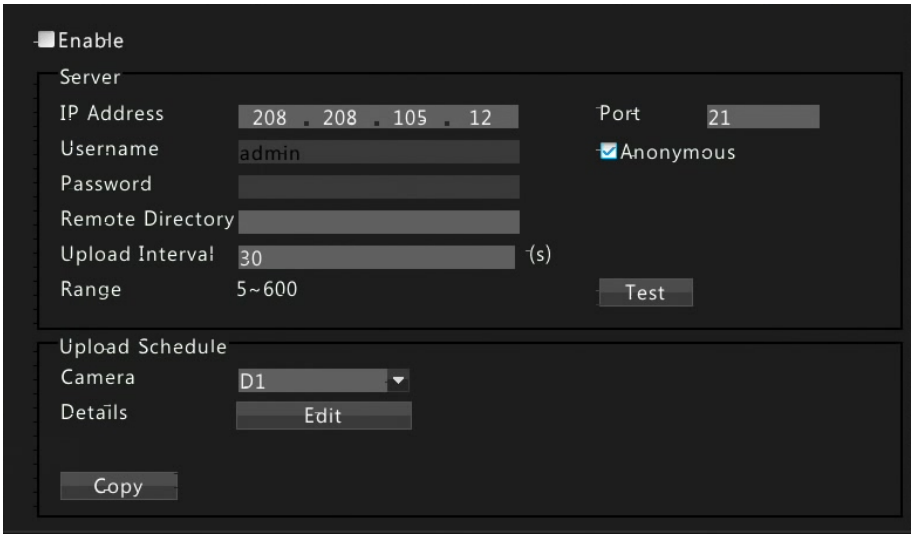
4. After you have completed the configuration, click **OK**.

FTP

NOTE!

- The FTP function is available for some device models only.
- You need an FTP tool before you can use the FTP function.
- The device can automatically upload image files to the FTP server if FTP is enabled and the device is connected to the FTP server.

1. Click **Menu** > **Network** > **FTP**.

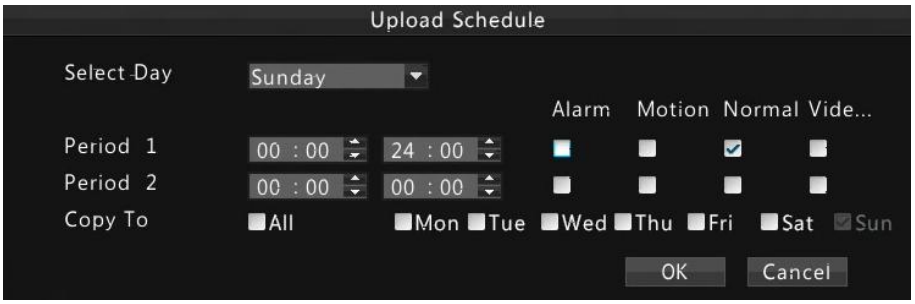


2. Enable FTP by selecting **Enable**.
3. Complete the settings, including the FTP server IP address, username and password, remote directory, and image upload intervals.

NOTE!

- Click **Test** to verify the connection to the FTP server.
- If the remote directory is not specified, new folders will be created based on IP address, time, and camera.

4. Select the desired camera from the drop-down list and then click **Edit**. In the **Upload Schedule** window, set time period(s) as needed and select the desired image type(s).



NOTE!

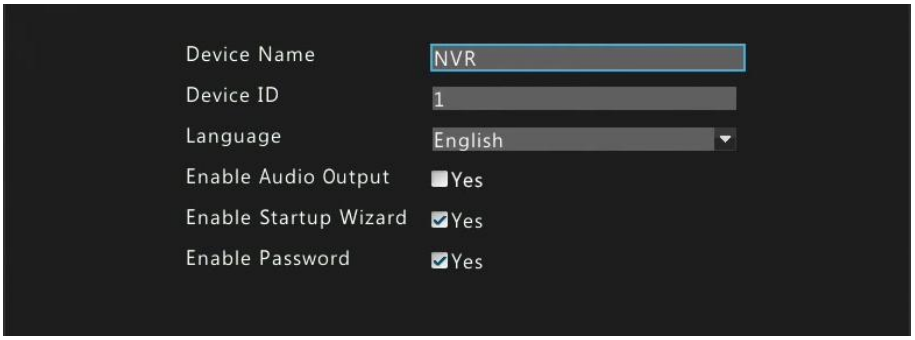
You may select the desired day(s) right to **Copy To** and apply the same upload schedule to the selected day(s).

5. After completing configuring the upload schedule, click **OK**.
6. To apply the settings to other cameras, click **Copy** and then select the desired camera(s) in the window.

11 System Configuration

Basic Configuration

1. Click **Menu** > **System** > **Basic**.
2. Configure the parameters.



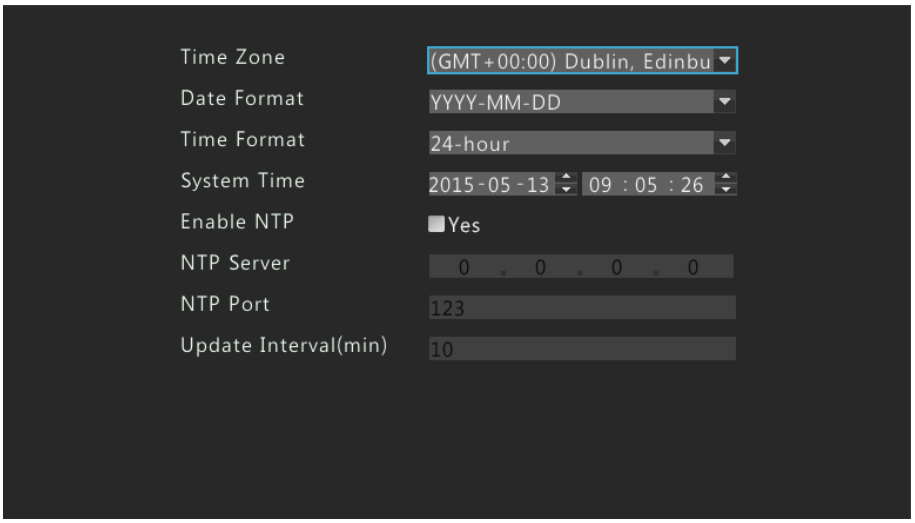
3. After you have completed the configuration, click **OK**.

NOTE!

- Only admin can configure the **Enable Password** parameter.
- If **Enable Password** is not selected, no password is required for login to the device. However, a username and password will be required upon your re-login after a logout.

Time Configuration

1. Click **Menu** > **System** > **Time**.
2. Select the correct time zone, and then set the date and time formats and the system time.
3. To use Network Time Protocol (NTP), select **Yes**, and then set the IP address and port number of the NTP server and the update interval.

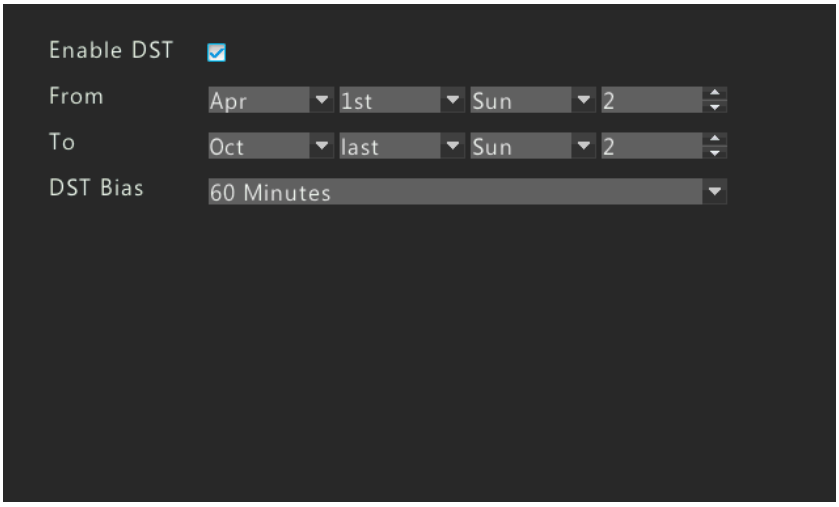


4. After you have completed the configuration, click **OK**.

DST Configuration

DST is the acronym for Daylight Saving Time.

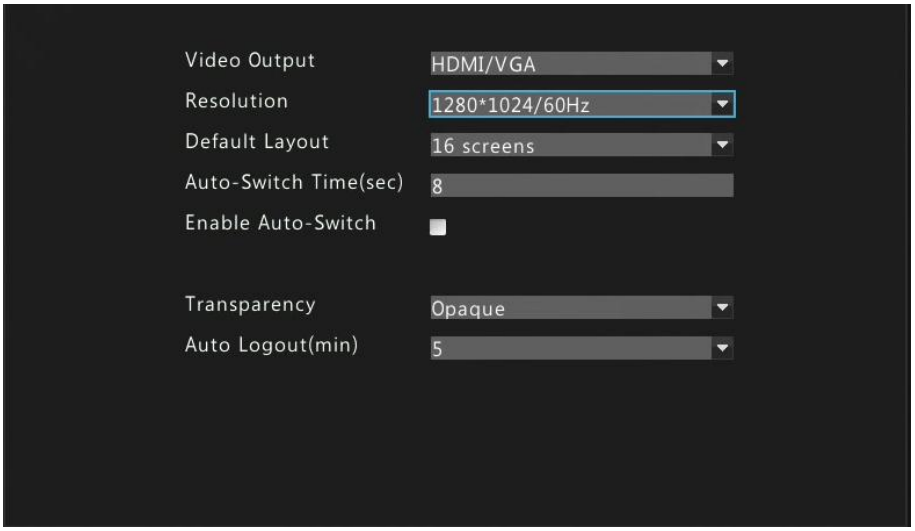
1. Click **Menu** > **System** > **DST**.
2. Select the **Enable DST** check box and then configure the start time, end time, and DST bias.



3. After you have completed the configuration, click **OK**.

Preview Configuration

1. Click **Menu** > **System** > **Preview**.
2. Configure the parameters.



NOTE!

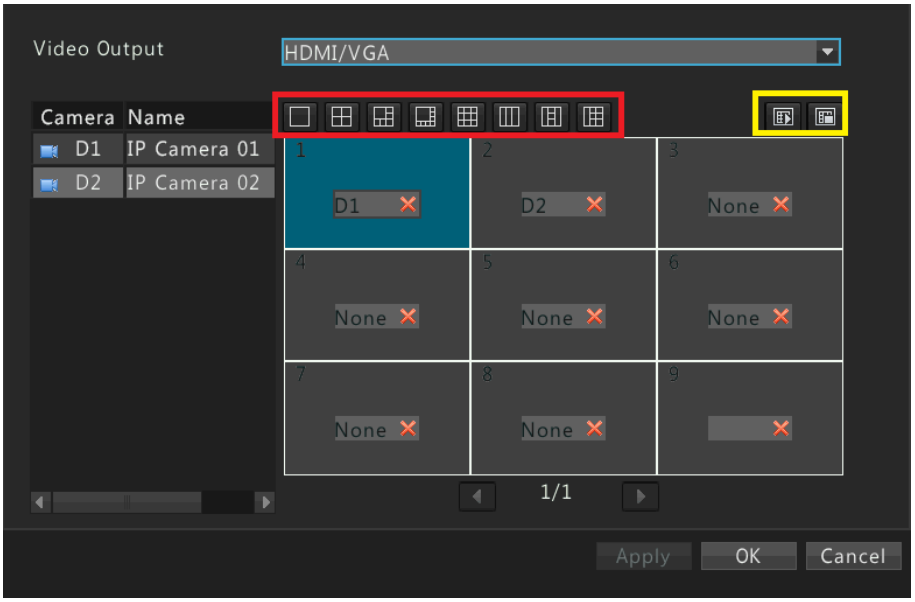
Depending on your device model, the supported output interfaces and number of screens may vary.

3. After you have completed the configuration, click **OK**.

View Configuration

View configuration is used to link cameras to preview panes dynamically.

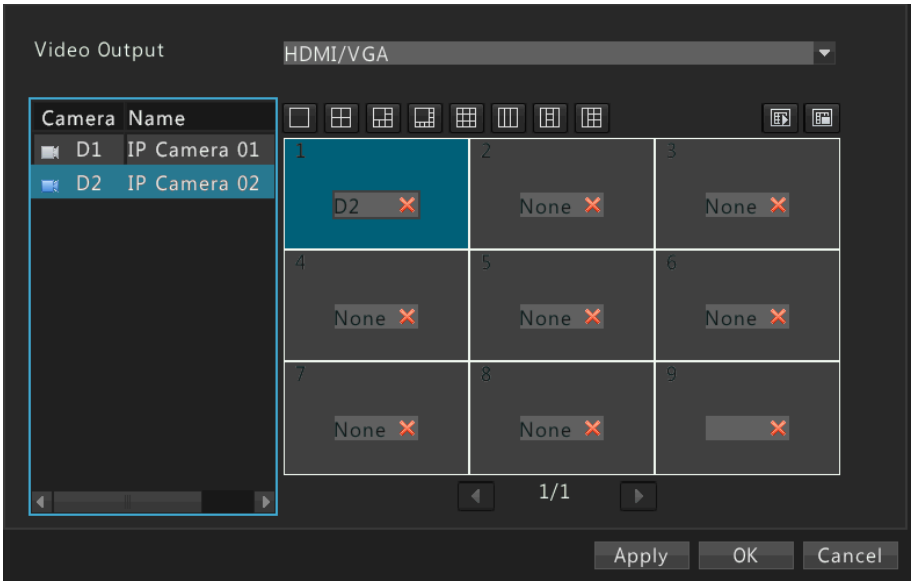
1. Click **Menu** > **System** > **View**.



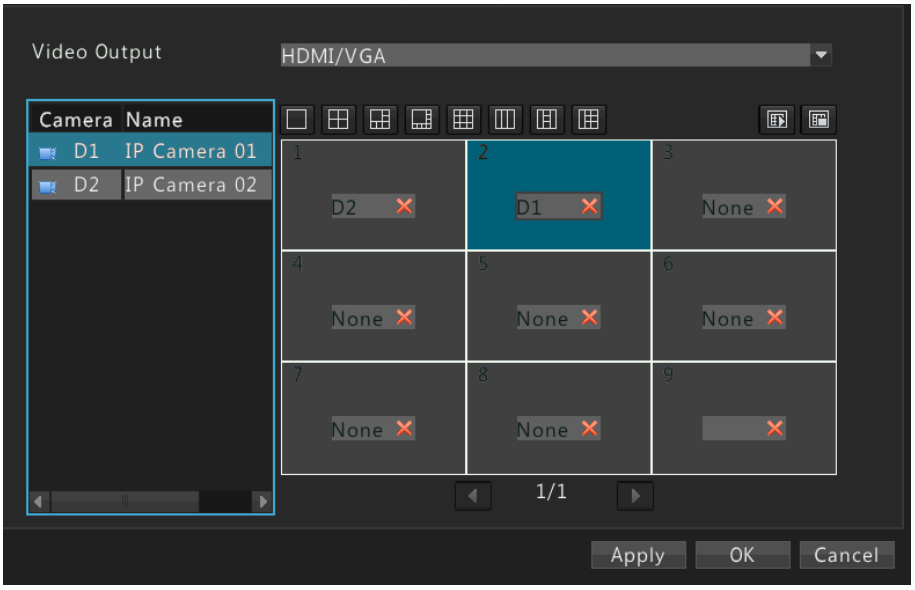
NOTE!

- You can change the view by clicking a button in the red box. The number of panes that can be displayed may vary, depending on your device model.
- The two buttons in the yellow box are used to enable or disable preview for all panes.

2. Click to select the No.1 pane on the right, and then double-click D2 on the left. Now D2 is displayed in the No.1 pane, and **None** is displayed in the No.2 pane.



3. Click to select the No.2 pane on the right, and then double-click D1 on the left. Now D1 is displayed in the No.2 pane.

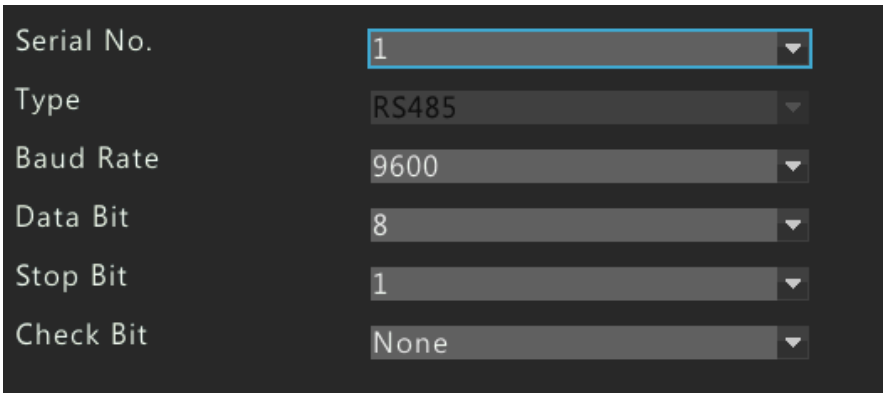


4. After you have completed the configuration, click **OK**.

Serial Port Configuration

Serial port settings in the device should be consistent with that of the connected serial device. Serial port configuration is required for PTZ control.

1. Click **Menu** > **System** > **Serial**.
2. Configure the parameters for the serial port.



3. After you have completed the configuration, click **OK**.

User Configuration

User is the entity that manages and uses the system. A user group is a collection of operation permissions. When a user group is assigned to a user, this user is assigned all the permissions defined for the user group.

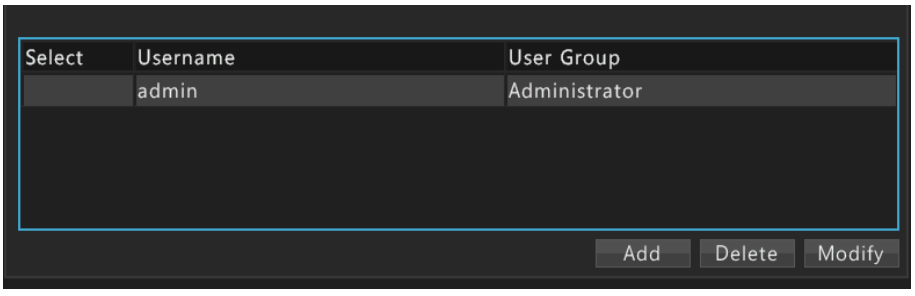
There are three user types in the system:

- Admin: By default the super administrator of the system and has full permissions. The initial password for admin is 123456.
- Operator: By default an operator has basic permissions and camera permissions. Admin can modify permissions assigned to operators.
- Guest: By default a guest has camera permissions. Admin can modify permissions assigned to a guest.

NOTE!

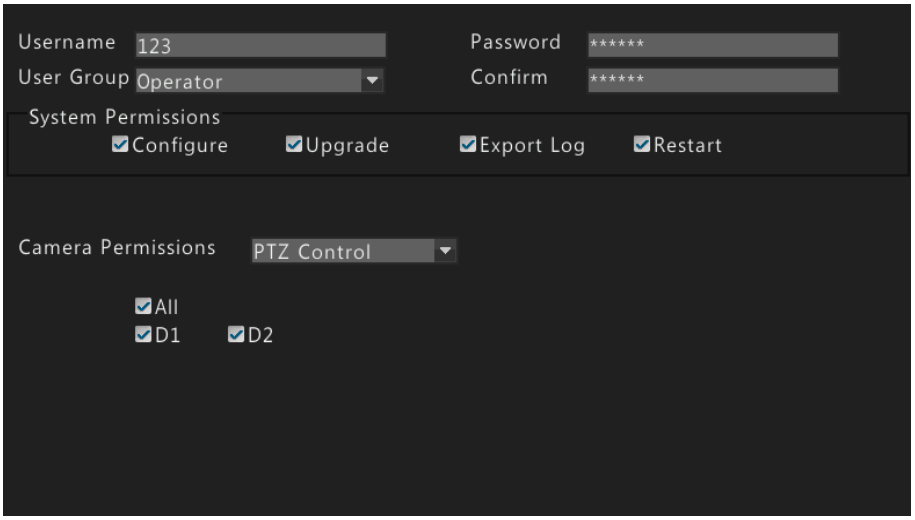
Only admin can add, delete and modify users.

1. Click **Menu** > **System User**.



2. User configuration

- Add a user.
  - **a.** Click **Add**.
  - **b.** Set the username, password, user group and permissions.
  - **c.** After you have completed the configuration, click **OK**.

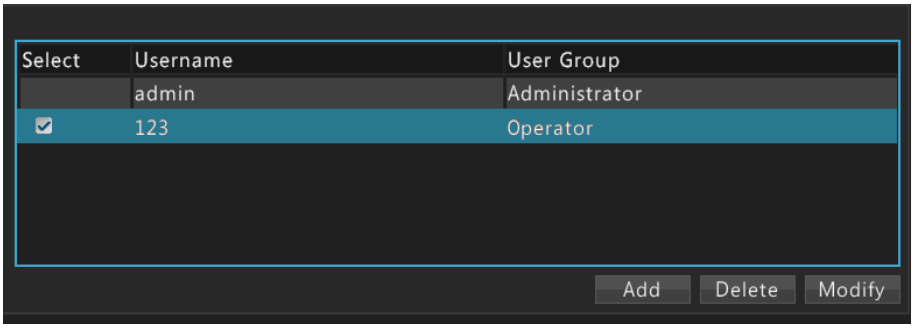


NOTE!

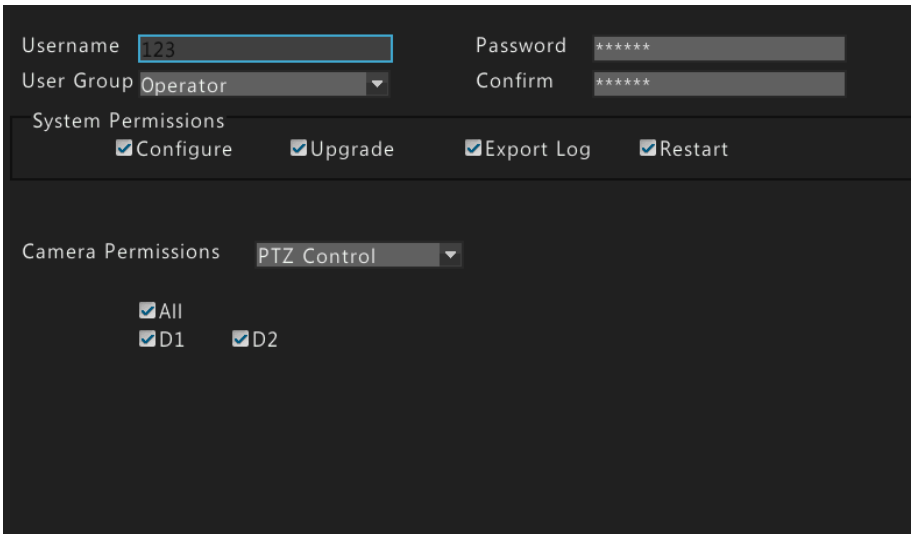
The system allows up to 16 users including admin.

- Delete a user

Select the desired user(s) and then click **Delete**. After you have completed the configuration, click **OK**.



- Modify a user
  - **a.** Select the desired user and then click **Modify**.
  - **b.** Modify the password, user group and permission as needed.



c. After you have completed the configuration, click **OK**.

NOTE!

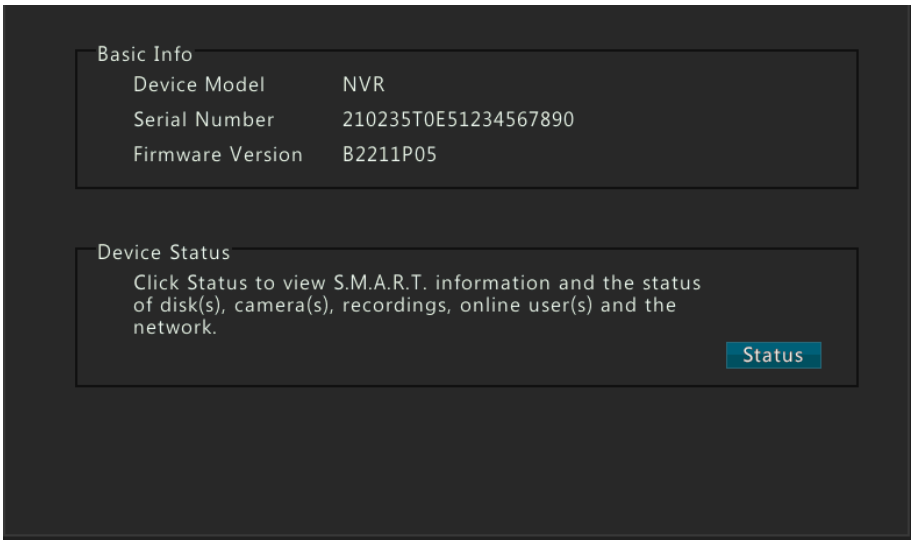
The user must use the new password to log in after the password is changed.

12 System Maintenance

System Information

View the basic information about the device for maintenance purpose.

1. Click **Menu** > **Maintain** > **System Info**.

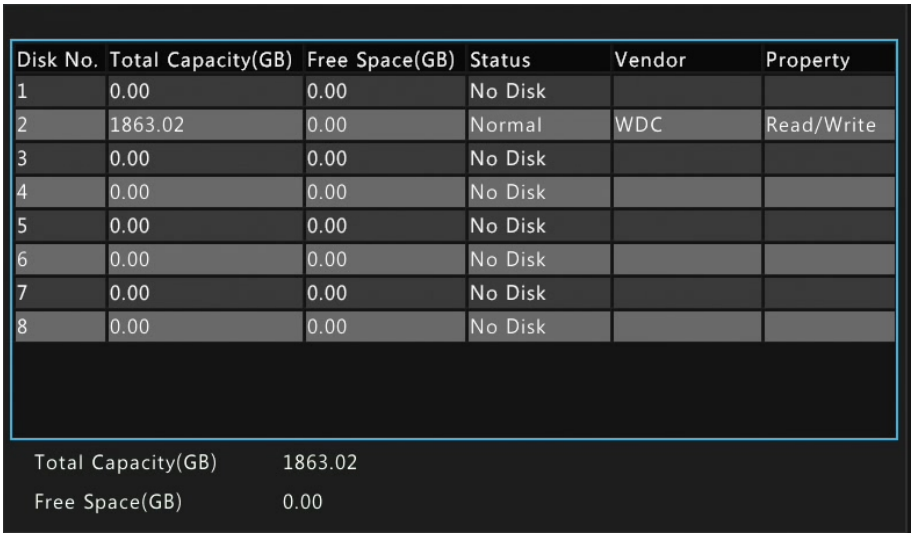


2. View the device information, including device model, bar code, and firmware version.

3. (Optional) Click **Status** for more status information.

Hard Disk Status

The **Disk** tab provides status information of hard disks installed in the device, including disk status, properties.



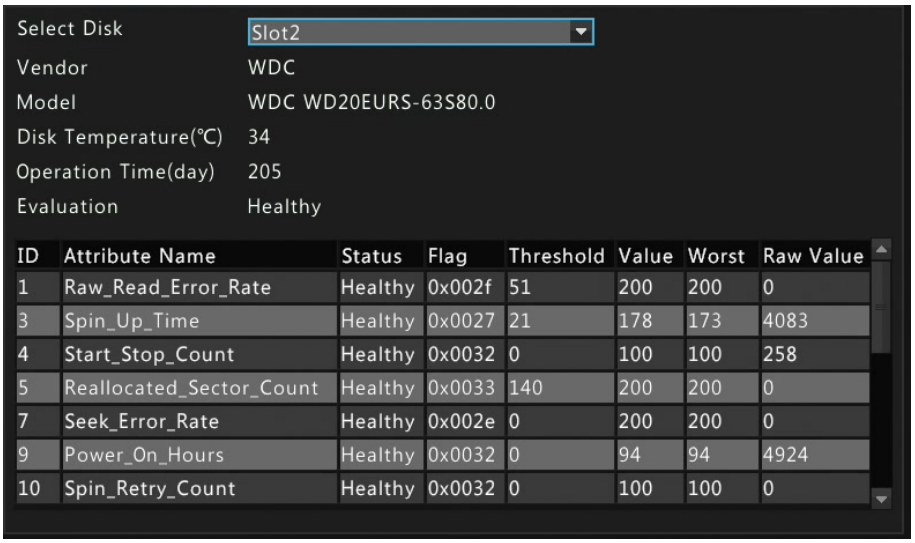
Disk No.	Total Capacity(GB)	Free Space(GB)	Status	Vendor	Property
1	0.00	0.00	No Disk		
2	1863.02	0.00	Normal	WDC	Read/Write
3	0.00	0.00	No Disk		
4	0.00	0.00	No Disk		
5	0.00	0.00	No Disk		
6	0.00	0.00	No Disk		
7	0.00	0.00	No Disk		
8	0.00	0.00	No Disk		

Total Capacity(GB) 1863.02

Free Space(GB) 0.00

S.M.A.R.T Information

S.M.A.R.T stands for Self-Monitoring, Analysis and Reporting Technology, which can test the magnetic head, platter, motor, and circuit of a hard disk and evaluate the health status. S.M.A.R.T test is enabled by default.



Select Disk: Slot2

Vendor: WDC

Model: WDC WD20EURS-63S80.0

Disk Temperature(℃): 34

Operation Time(day): 205

Evaluation: Healthy

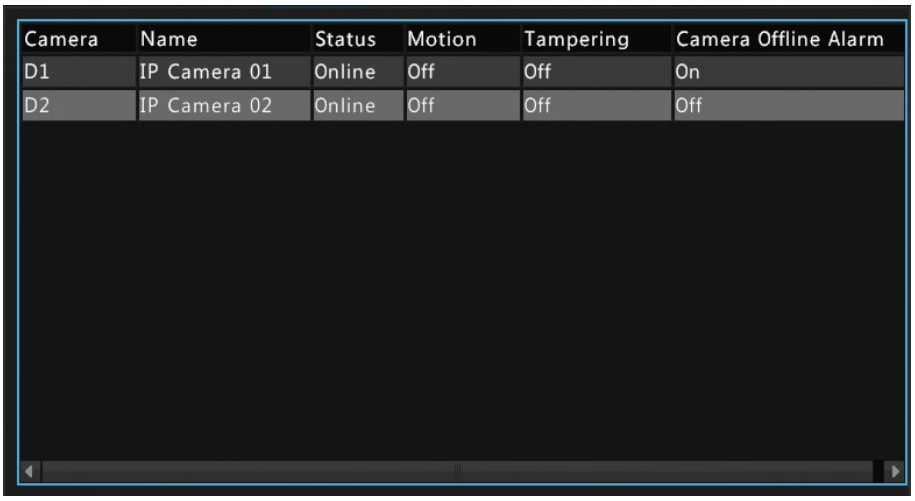
ID	Attribute Name	Status	Flag	Threshold	Value	Worst	Raw Value
1	Raw_Read_Error_Rate	Healthy	0x002f	51	200	200	0
3	Spin_Up_Time	Healthy	0x0027	21	178	173	4083
4	Start_Stop_Count	Healthy	0x0032	0	100	100	258
5	Reallocated_Sector_Count	Healthy	0x0033	140	200	200	0
7	Seek_Error_Rate	Healthy	0x002e	0	200	200	0
9	Power_On_Hours	Healthy	0x0032	0	94	94	4924
10	Spin_Retry_Count	Healthy	0x0032	0	100	100	0

NOTE!

Evaluation results can be Healthy, Bad Sectors, and Failure. If the result is Failure, you are recommended to replace the hard disk. Please contact your dealer for more information.

Camera Status

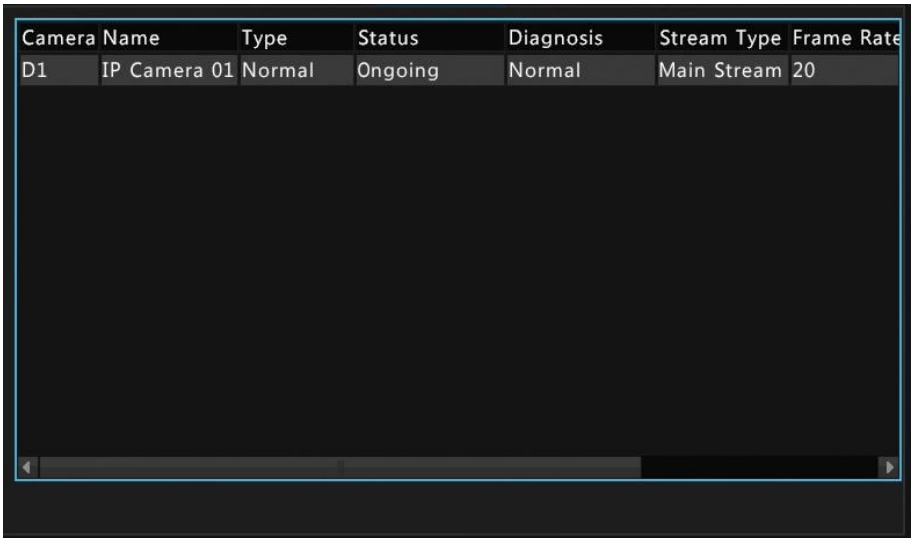
You can view camera status on the **Camera** tab.



Camera	Name	Status	Motion	Tampering	Camera Offline Alarm
D1	IP Camera 01	Online	Off	Off	On
D2	IP Camera 02	Online	Off	Off	Off

Recording Status

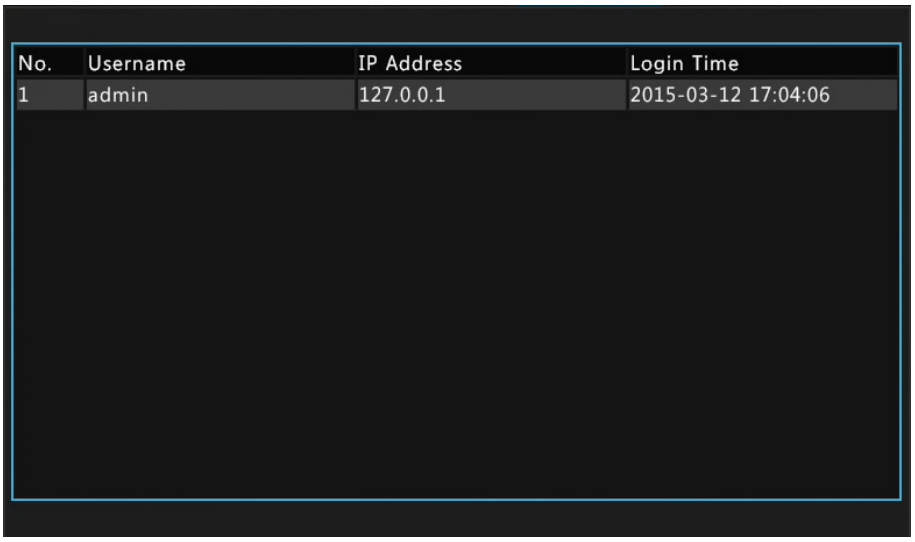
You can view recording status and encoding parameters on the **Recording** tab.



Camera	Name	Type	Status	Diagnosis	Stream Type	Frame Rate
D1	IP Camera 01	Normal	Ongoing	Normal	Main Stream	20

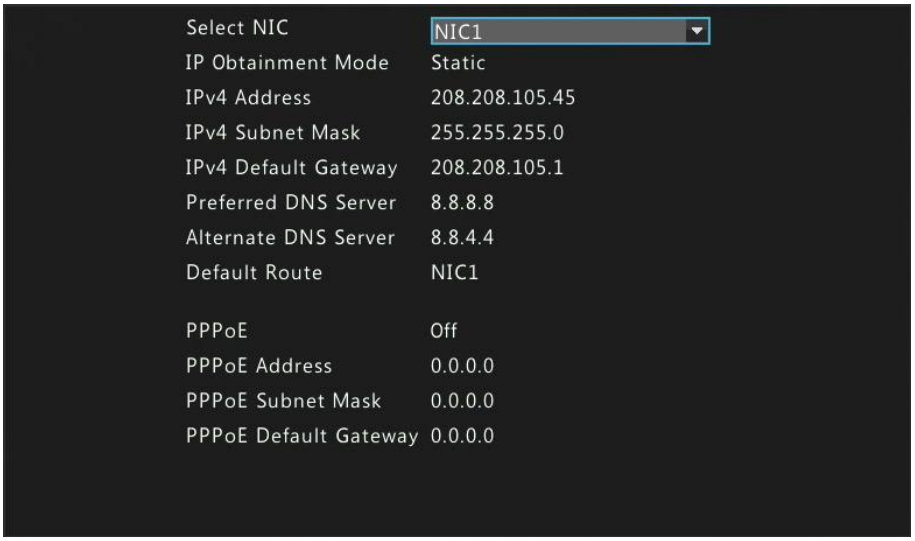
Online User Status

The **Online User** tab displays information on user(s) who are currently logged in to the device.



Network Status

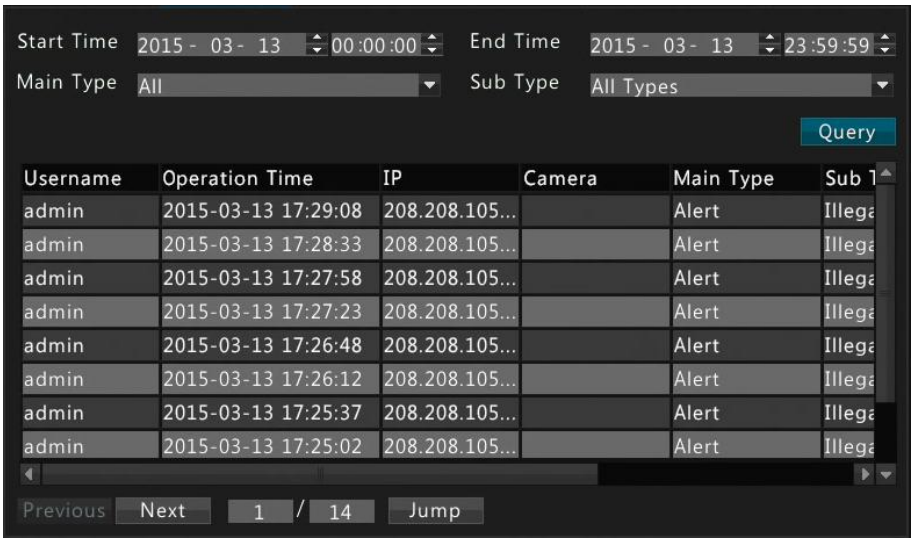
The **Network** tab displays network settings of the device.



Log Query

Logs record operations performed by users and device operation status. By analyzing logs, you can keep track of device operation status and view detailed alarm information.

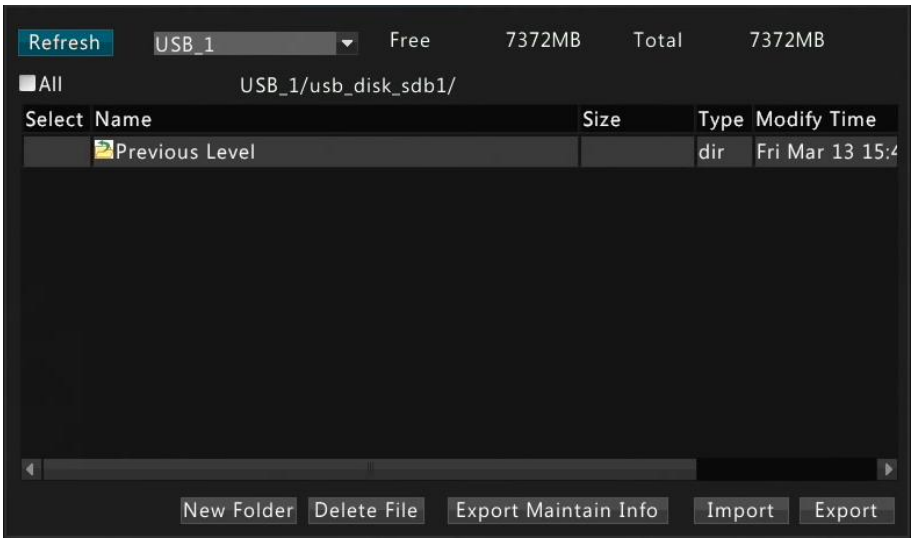
1. Click **Menu** > **Maintain** > **Log Query**.
2. Set query condition, including the start time and end time, main log type and sub type.
3. Click **Query**. Results matching the condition are displayed.



Import/Export

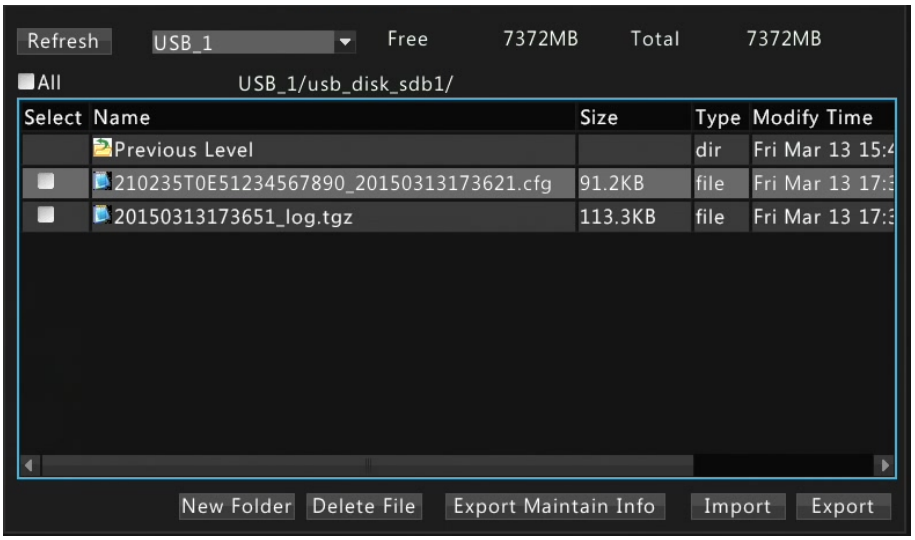
Users who have permission to configure can perform this operation.

1. Click **Menu** > **Maintain** > **Import/Export**.



2. Import/export configurations.

- To export system configurations, click **Export**. A file named ***.cfg** will be created in the selected folder if the export operation is successful.
- To export maintenance information, click **Export Maintain Info**. A file named ***.tgz** will be created in the selected folder if the export operation is successful.



- To import system configurations, double-click the target directory to access it, select the correct file (named ***.cfg**), click **Import**, and then click **OK**.

CAUTION!

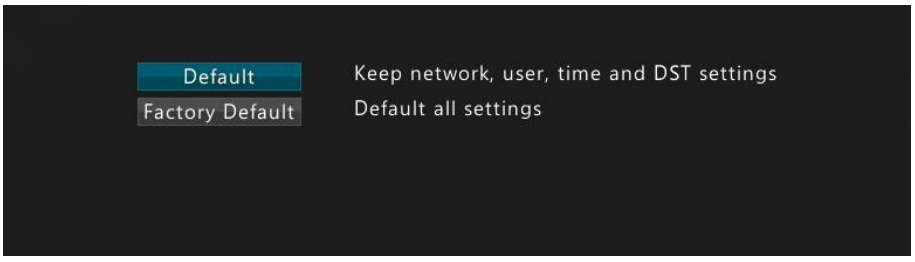
- Delete files or folders with caution. The delete operation is irreversible.
- Only admin can export system configurations, maintenance information and import system configurations.

System Restoration

The system can be restored in two ways:

- Default: All settings, except network, user, time (including DST) settings, will be restored to the defaults.
- Factory Default: All settings will be restored to the defaults.

1. Click **Menu** > **Maintain** > **Restore**.
2. Click **Default** or **Factory Default** as required, and then click **OK**. The device will restart and restore the system according to the mode you have chosen.



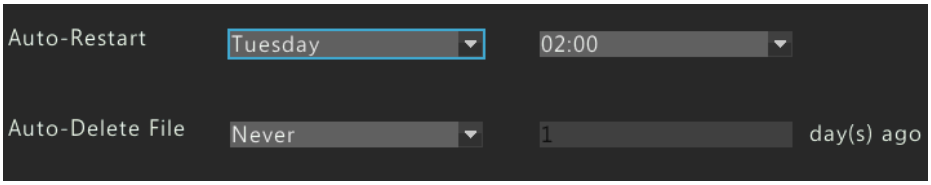
NOTE!

Recorded videos and operation logs will not be deleted if you click **Default**.

Auto-Maintain

Only admin can perform this operation.

1. Click **Menu** > **Maintain** > **Auto-Maintain**.
2. Set when the system automatically restarts and deletes files as required.



CAUTION!

Files that are deleted automatically cannot be recovered.

System Upgrade

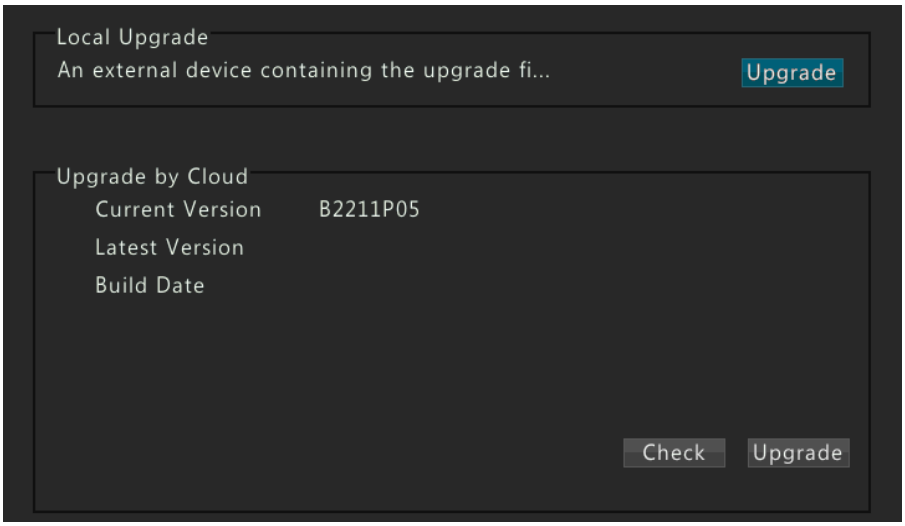
You can choose either method to upgrade the device:

- Local upgrade: upgrade the device using an upgrade file backed up in a USB storage device. For more descriptions about using a USB storage device, see System Upgrade.
- Upgrade by cloud: upgrade the device by using a server.

CAUTION!

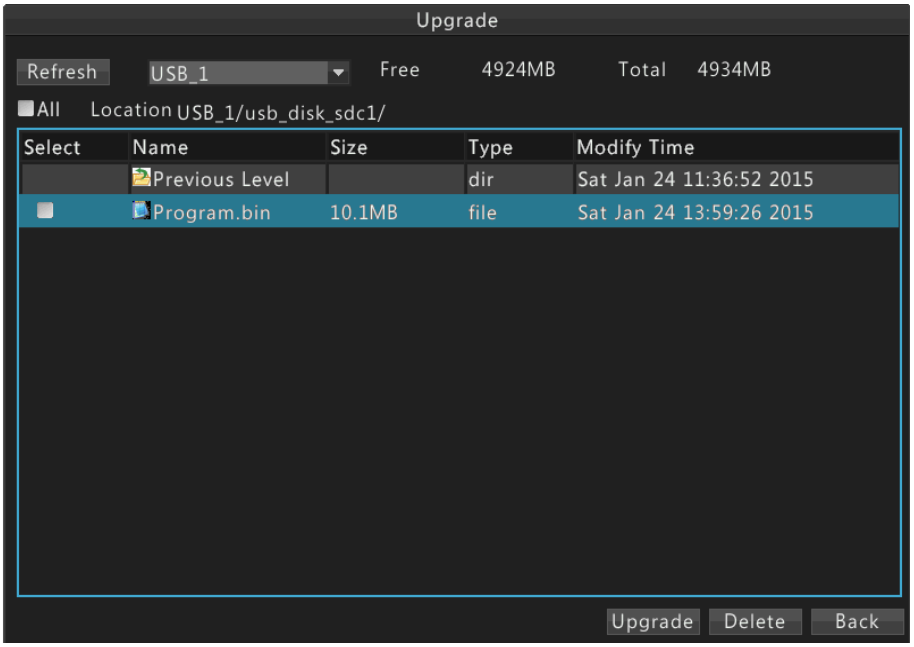
- Maintain a normal power supply during upgrade. Use an Uninterrupted Power Supply (UPS) if necessary.
- Before you start a local upgrade, copy the correct upgrade file to the root directory of the USB storage device. Otherwise, the upgrade will fail.
- The device will restart automatically after the upgrade is completed.

1. Click **Menu** > **Maintain** > **Upgrade**.



2. Upgrade the device using one of the following methods.

- Local upgrade
  a. Click **Upgrade**.
  b. Select the directory containing the upgrade file in the USB storage device and then click **Upgrade**.



- Upgrade by cloud. Click **Check** to check whether the current version is the latest.

  If a newer version is found, the version number and build date will be displayed. Click **Upgrade** to start.

  If the current version is already the latest, a notification message will be displayed.

NOTE!

Upgrade by cloud is affected by the network transmission speed.

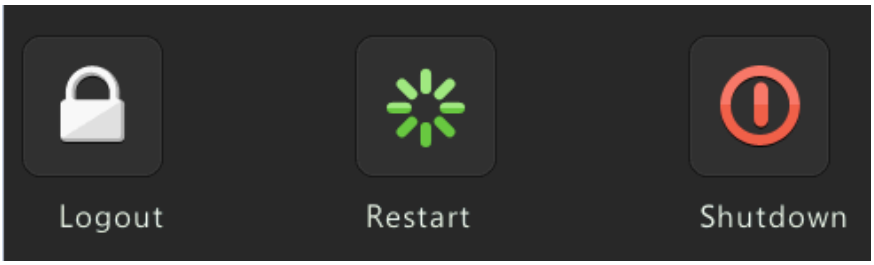
13 Shutdown

You can log out of the device, restart or shut down the device in the **Shutdown** window.

It is recommended that you disconnect the device from the power supply if the device will not be used for a long time.

You can also shut down the device by pressing the power button on the front panel for at least three seconds and then confirming the operation.

1. Click **Menu** > **Shutdown**.
2. Click the button as needed.



CAUTION!

Unsaved settings will be lost if the device is shut down in an incorrect manner, for example, due to a power failure. An incorrect shutdown during an upgrade may cause startup failures.

Part II Web-Based Operations

1 Before You Begin

The following figures are for illustration purpose only because difference exists between different models.

NOTE!

The parameters that are grayed out cannot be modified. See your device for the actual parameters and parameter values.

2 Login

1. Open the Web browser on your computer, input the IP address (**192.168.0.30** by default) of the device and then press **Enter**. You need to load the latest ActiveX as prompted when logging in the first time. You need close the Web browser to complete the installation.
2. In the login dialog box, enter the correct username and password (123456 for admin) and then click **Login**.

CAUTION!

The default password is intended only for your first login. To ensure account security, please change the password after your first login.

3 Live View

By default the **Live View** page is displayed when you are logged in.

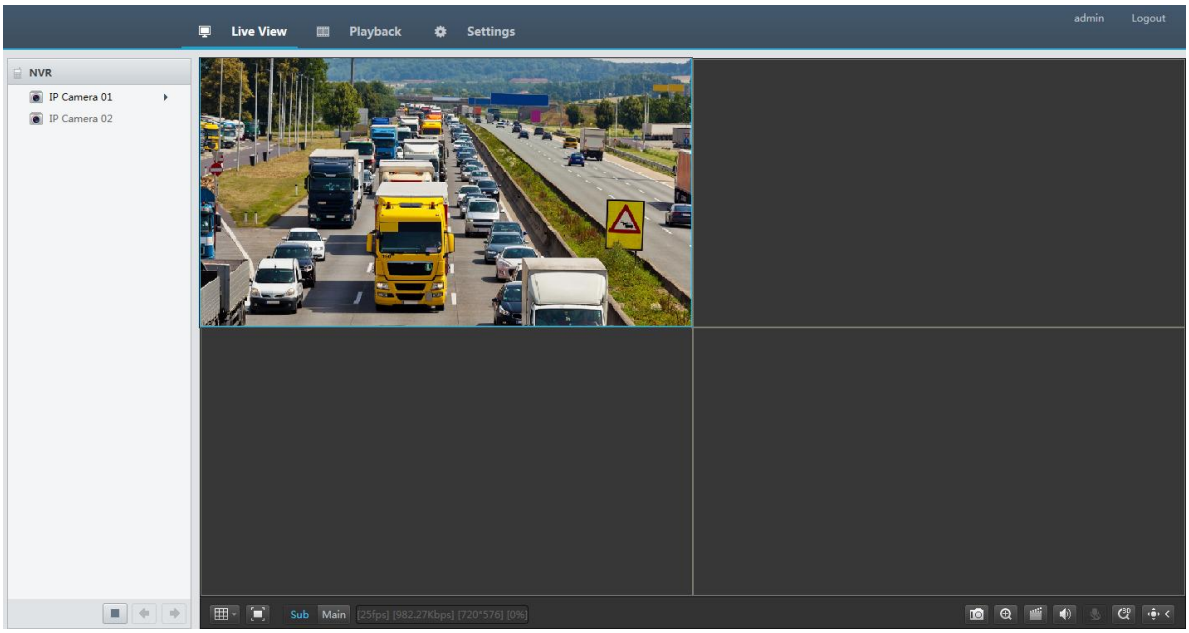


Table 3-1 Live View Control Buttons

Button	Description	Button	Description
	Two-way audio	/	Start/Stop live view for all cameras
/	Previous/Next screen		Switch screen layout
	Enter or exit full screen mode	Sub Main	Adjust video quality
	Snapshot		Start zoom
	Local recording	/	Turn on/off audio
/	Adjust microphone volume		3D positioning
/	Open/Close control panel		

NOTE!

- A snapshot is named in this format: IP address_camera ID_snapshot time.file extension. For example, 192.168.0.30_D1_20150311102123239.jpg, where 20150311102123239 means that the snapshot is taken at the system time of 10:21:23:239 on March 11th, 2015.
- By default, snapshots are saved in this directory: C:\Users*username*\Surveillance\Snap*system date (yyyy-mm-dd).*
- A local recording is named in this format: IP address_camera ID_S recording start time E recording end time.file extension. The recording start and end times are in hh-mm-ss format.
- By default, a local recording is saved in this directory: C:\Users\username\Surveillance\Record\system date. The system date is in *yyyy-mm-dd* format.

4 Playback

Click **Playback** to open the **Playback** page.

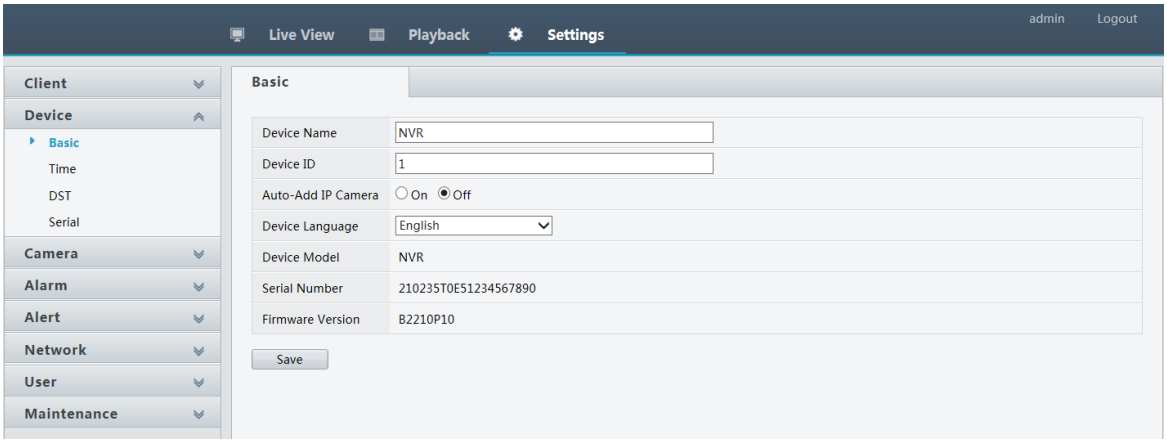
Table 4-1 Playback Control Buttons

Button	Description	Button	Description
/	Play/pause		Stop
	Rewind by frame		Forward by frame
	Rewind 30s		Forward 30s
	Speed down		Speed up

Button	Description	Button	Description
	Previous period		Next period
/	Clip video/pause		Save
	Take a snapshot		Adjust volume, turn on/off sound

5 Configuration

Click **Settings** on the main page, and then click the menu on the left to configure parameters.



Appendix A Technical Specifications

Table 5-1 NVR101-04/08/16

Item		NVR101-04	NVR101-08	NVR101-16
Decoding	Video decoding	H.264 HP@L4, H.264 MP@L3		
	Audio decoding	G.711		
Audio/video output	HDMI output	1-ch		
	VGA output	1-ch		
Network connection		4-ch	8-ch	16-ch
Hard disk slot		1 slot		
External	Network	1 × 10M/100M adaptive Ethernet Base-T		1 × 10M/100M/1000M adaptive Ethernet

Item		NVR101-04	NVR101-08	NVR101-16
interfaces	interface	copper interface		Base-T copper interface
	USB	2 × USB2.0		
	Audio alarm	Supports buzzer		
Others	Power	12 VDC, 2A		
	Power consumption	8 W (not including hard disk)		
	Operation temperature	-10°C to 55°C (14°F to 131°F)		
	Operation humidity	10%-90% (noncondensing)		
	Dimensions (W × D × H)	260.0 mm × 215.0 mm × 43.6 mm (10.2" × 8.5" × 1.7")		

Table 5-2 NVR101-04E/08E/16E

Item		NVR101-04E	NVR101-08E	NVR101-16E
Decoding	Video decoding	H.264 HP@L4, H.264 MP@L3		
	Audio decoding	G.711		
Audio/video output	HDMI output	1-ch		
	VGA output	1-ch		
	RCA audio output	1-ch		
2-way audio		1-ch (RCA) (reuse the audio output channel)		
Network connection		4-ch	8-ch	16-ch
Synchronous playback		4-ch		9-ch
Hard disk slot		1 slot		
External interfaces	Network interface	1 × 10M/100M adaptive Ethernet Base-T copper interface		1 × 10M/100M/1000M adaptive Ethernet Base-T copper interface
	USB	2 × USB2.0		
	Alarm input	2-ch		
	Alarm output	1-ch		
	Audio alarm	Supports buzzer		
Others	Power	12 VDC, 2A		

Item		NVR101-04E	NVR101-08E	NVR101-16E
	Power consumption	8 W (not including hard disk)		
	Operation temperature	-10°C to 55°C (14°F to 131°F)		
	Operation humidity	10%-90% (noncondensing)		
	Dimensions (W × D × H)	260.0 mm × 219.5 mm × 43.6 mm (10.2" × 8.6" × 1.7")		

Table 5-3 NVR102-04/08/16

Item		NVR102-04	NVR102-08	NVR102-16
Decoding	Video decoding	H.264 HP@L4, H.264 MP@L3		
	Audio decoding	G.711		
Audio/video output	HDMI output	1-ch		
	VGA output	1-ch		
Network connection		4-ch	8-ch	16-ch
Hard disk slot		2 slots		
External interfaces	Network interface	1 × 10M/100M adaptive Ethernet Base-T copper interface		1 × 10M/100M/1000M adaptive Ethernet Base-T copper interface
	USB	2 × USB2.0		
	Audio alarm	Supports buzzer		
Others	Power	12 VDC, 2A		
	Power consumption	8 W (not including hard disk)		
	Operation temperature	-10°C to 55°C (14°F to 131°F)		
	Operation humidity	10%-90% (noncondensing)		
	Dimensions (W × D × H)	360.0 mm × 247.8 mm × 43.6 mm (14.2" × 9.76" × 1.7")		

Table 5-4 NVR102-04E/08E/16E

Item		NVR102-04E	NVR102-08E	NVR102-16E
Decoding	Video decoding	H.264 HP@L4, H.264 MP@L3		
	Audio decoding	G.711		
Audio/video output	HDMI output	1-ch		
	VGA output	1-ch		
	RCA audio output	1-ch		
2-way audio		1-ch (RCA) (reuse the audio output channel)		
Network connection		4-ch	8-ch	16-ch
Synchronous playback		4-ch		
Hard disk slot		2 slots		
External interfaces	Network interface	1 × 10M/100M adaptive Ethernet Base-T copper interface		1 × 10M/100M/1000M adaptive Ethernet Base-T copper interface
	USB	2 × USB2.0		
	Alarm input	2-ch		
	Alarm output	1-ch		
	Audio alarm	Supports buzzer		
Others	Power	12 VDC, 2A		
	Power consumption	8 W (not including hard disk)		
	Operation temperature	-10°C to 55°C (14°F to 131°F)		
	Operation humidity	10%-90% (noncondensing)		
	Dimensions (W × D × H)	360.0 mm × 254.3 mm × 43.6 mm (14.2" × 10" × 1.7")		

Table 5-5 NVR208-16/32

Item		NVR208-16	NVR208-32
Decoding	Video decoding	H.264 HP@L4, H.264 MP@L3	
	Audio decoding	G.711	
Audio/video	HDMI output	1-ch	

Item		NVR208-16	NVR208-32
output	VGA output	1-ch	
	Audio output	1-ch	
2-way audio		1-ch (reuse the audio output channel)	
Network connection		16-ch	32-ch
Synchronous playback		16 × 720P	
Hard disk slot		8 slots	
External interfaces	Network interface	2 × 10M/100M/1000M adaptive Ethernet Base-T copper interface	
	USB	2 × USB 2.0 (1 on front panel, 1 on rear panel), 1 × USB 3.0 (on rear panel)	
	Serial port	1 RS-232 (RJ45), 1 RS-485 (phoenix connector)	
	Alarm input	8-ch	
	Alarm output	2-ch	
Others	Power	100-240 VAC, with power switch	
	Consumption	20 W (not including hard disk)	
	Operation Temperature	-10°C to 55°C (14°F to 131°F)	
	Operation Humidity	10%-90% (noncondensing)	
	Weight	No disks: < 5.0 kg (11 lb) With hard disks < 10.5 kg (23.2 lb)	
	Dimensions (W × D × H)	Height: 2U, supports installation in 19" standard cabinet. 442.0 mm × 421.0 mm × 86.1 mm (17.4" × 16.6" × 3.4") (with front panel)	

Table 5-6 NVR201-04EP

Item		NVR201-04EP
Decoding	Video decoding	H.264 HP@L4, H.264 MP@L3
	Audio decoding	G.711
Audio/video output	HDMI output	1-ch
	VGA output	1-ch

	RCA audio output	1-ch
2-way audio		1-ch (RCA) (reuse the audio output channel)
Network connection		4-ch
Synchronous playback		4-ch
Hard disk slot		1 slot
External interfaces	Network interface	1 × 10M/100M/1000M adaptive Ethernet Base-T copper interface 4 × 10M/100M Base-T PoE+ copper interfaces
	USB	1 × USB 2.0, 1 × USB 3.0
	Audio alarm	Supports buzzer
Others	Power	52 VDC, 1.8A
	Consumption	60 W (with hard disks)
	Operation temperature	-10°C to 55°C (14°F to 131°F)
	Operation humidity	10%-90% (noncondensing)
	Dimensions (W × D × H)	260.0 mm × 219.5 mm × 43.6 mm (10.2" × 8.6" × 1.7")

Table 5-7 NVR202-08EP/16EP

Item		NVR202-08EP	NVR202-16EP
Decoding	Video decoding	H.264 HP@L4, H.264 MP@L3	
	Audio decoding	G.711	
Audio/video output	HDMI output	1-ch	
	VGA output	1-ch	
	RCA audio output	1-ch	
2-way audio		1-ch (RCA) (reuse the audio output channel)	
Network connection		8-ch	16-ch
Synchronous playback		8-ch	16-ch
Hard disk slot		2 slots	
External interfaces	Network interface	1 × 10M/100M/1000M adaptive Ethernet Base-T copper interface, 8 × 10M/100M Base-T PoE+ copper interfaces	

Item		NVR202-08EP	NVR202-16EP
	USB	1 × USB 2.0, 1 × USB 3.0	
	Audio alarm	Supports buzzer	
Others	Power	52 VDC, 1.8A	
	Consumption	94 W (with hard disks)	
	Operation temperature	-10°C to 55°C (14°F to 131°F)	
	Operation humidity	10%-90% (noncondensing)	
	Dimensions (W × D × H)	360.0 mm × 254.3 mm × 43.6 mm (14.2" × 10" × 1.7")	

Table 5-8 NVR202-08EN/16EN

Item		NVR202-08EN	NVR202-16EN
Decoding	Video decoding	H.264 HP@L4, H.264 MP@L3	
	Audio decoding	G.711	
Audio/video output	HDMI output	1-ch	
	VGA output	1-ch	
	RCA audio output	1-ch	
2-way audio		1-ch (RCA) (reuse the audio output channel)	
Network connection		8-ch	16-ch
Synchronous playback		8-ch	16-ch
Hard disk slot		2 slots	
External interfaces	Network interface	1 × 10M/100M/1000M adaptive Ethernet Base-T copper interface, 8 × 10M/100M adaptive Ethernet Base-T copper interfaces	
	USB	1 × USB 2.0, 1 × USB 3.0	
	Audio alarm	Supports buzzer	
Others	Power	12 VDC, 2A	
	Consumption	24 W (with hard disks)	
	Operation temperature	-10°C to 55°C (14°F to 131°F)	
	Operation	10%-90% (noncondensing)	

Item		NVR202-08EN	NVR202-16EN
	humidity		
	Dimensions (W × D × H)	360.0 mm × 254.3 mm × 43.6 mm (14.2" × 10" × 1.7")	

Table 5-9 NVR202-08E/16E/32E

Item		NVR202-08E	NVR202-16E	NVR202-32E
Decoding	Video decoding	H.264 HP@L4, H.264 MP@L3		
	Audio decoding	G.711		
Audio/video output	HDMI output	1-ch		
	VGA output	1-ch		
	RCA audio output	1-ch		
2-way audio		1-ch (RCA) (reuse the audio output channel)		
Network connection		8-ch	16-ch	32-ch
Synchronous playback		8-ch	16-ch	
Hard disk slot		2 slots		
External interfaces	Network interface	1 × 10M/100M/1000M adaptive Ethernet Base-T copper interface		
	USB	1 × USB 2.0, 1 × USB 3.0		
	Audio alarm	Supports buzzer		
Others	Power	12 VDC, 2A		
	Power consumption	24 W (with hard disks)		
	Operation temperature	-10°C to 55°C (14°F to 131°F)		
	Operation humidity	10%-90% (noncondensing)		
	Dimensions (W × D × H)	360.0 mm × 254.3 mm × 43.6 mm (14.2" × 10" × 1.7")		

Appendix B Acronyms

Acronym	Description
CBR	Constant Bit Rate
DDNS	Dynamic Domain Name Service
DHCP	Dynamic Host Configuration Protocol
DST	Daylight Saving Time
FTP	File Transfer Protocol
HDMI	High Definition Multimedia Interface
IPC	IP Camera
JPEG	Joint Photographic Experts Group
NAT	Network Address Translation
NIC	Network Interface Card
NTP	Network Time Protocol
NVR	Network Video Recorder
ONVIF	Open Network Video Interface Forum
PoE	Power over Ethernet
PPPoE	Point-to-Point Protocol over Ethernet
P2P	Peer-to-Peer
PTZ	Pan, Tilt, Zoom
S.M.A.R.T	Self-Monitoring, Analysis and Reporting Technology
UPnP	Universal Plug-and-Play
USB	Universal Serial Bus
VGA	Video Graphics Array
VBR	Variable Bit Rate